BC Environment

SPECIAL WASTE LEGISLATION GUIDE

May 1992

British Columbia
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TELEPHONE NUMBERS

WHERE TO REPORT SPILLS (24 HOURS)

Provincial Emergency Program	1-800-663-3456 or 387-5956
Canadian Coast Guard (to report marine spills)	666-6011

BC ENVIRONMENT - ENVIRONMENTAL PROTECTION PROGRAM

Headquarters, Victoria	387-9955

REGIONAL OFFICES

Vancouver Island Region

Main Office:	Nanaimo	758-3951

Lower Mainland Region

Main Office:	Surrey	582-5200

Southern Interior Region

Main Office:	Kamloops	371-6200
Sub-offices:	Penticton	490-8200
	Vernon	549-5466

Kootenay Region

Main Office:	Nelson	354-6333
Sub-office:	Cranbrook	426-1475

Northern Region

Main Office:	Prince George	565-6135
Sub-offices:	Fort St. John	787-3295
	Williams Lake	398-4530

Skeena Region

Main Office:	Smithers	847-7260

MINISTRY OF ATTORNEY GENERAL

Dangerous Goods (Victoria)	387-5585

TRANSPORT CANADA

Canadian Coast Guard (24 hour marine spill reporting)		666-6011
Transport Canada (TDG-Vancouver)		666-2955
CANUTEC (Ottawa)	Emergencies	(613) 996-6666
	Information	(613) 992-4624

ENVIRONMENT CANADA

Conservation and Protection (Vancouver)	666-6711

Special Waste Legislation Guide

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Copies of this guide may be obtained from any office of the Environmental Protection Program or from the office of:

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I HOW TO USE THIS GUIDE

This guide explains how to follow British Columbia's special waste management laws and regulations and describes the Province's special waste management programs. There are 22 major sections, starting with a brief introduction followed by step-by-step descriptions of the legal procedures for the identification, handling, storage, transportation and disposal of special wastes.

Waste owners and generators need to know first if their wastes qualify as special wastes, and should start with Section III, "When is a Waste a Special Waste?" A good chemical and physical characterization of the waste, and access to a well-equipped laboratory for chemical analyses are required.

If a waste is a special waste, the next step is to register it with the Ministry (unless the quantity is so small, that it is exempt from registration). Section IV discusses the quantities, procedures and allowable time for registration.

Containers are used frequently to store or transport special waste and are an important element in any special waste management option. Section V (and section X.C if storage of PCB wastes is involved) should be reviewed to determine the requirements for placing special waste in containers. This could save time and effort by preventing wastes from being placed in the wrong types of containers, or in incompatible combinations.

Section VI discusses the issue of transporting special waste. This section is of particular importance to special waste carriers, consignors, and receivers. It discusses the consignor identification number system, the process for obtaining a transport licence, and the responsibilities of all parties in completing a manifest.

Soon after a waste is classified as a special waste, a decision must be made on how to manage it. Various ways of managing special wastes are reviewed in Section VII, "Special Waste Management Options". This section includes a table of options for reuse, treatment or disposal for different types of special wastes.

The management option selected determines which sections of the guide are consulted next. Sections VIII to XVI discuss the requirements for all types of special waste management facilities. Section VIII is particularly important, because it covers those general requirements which must be met by all types of facilities. The other sections discuss additional aspects, specific to tne type of management facility being used. For example, if it is decided to manage the waste at a mobile special waste treatment facility, then Section VIII, "Requirements for All Special Waste Facilities", Section XI, "Treatment Facility Requirements", and Section XIII, "Mobile Facility Requirements", should all be consulted. On the other hand, if the waste is to be stored temporarily on-site, both the section on requirements for all special waste facilities, and the section on short-term storage of special wastes, should be reviewed.

Certain practices which are prohibited in managing special wastes are discussed in Section XVII. These include mixing or diluting of special waste, underground injection of special waste, location of any types of special waste facilities on water, and discharges to municipal sewers or landfills.

Alternate, less restrictive options are permitted for some specific types of special waste, if they are managed according to some special provisions. Section XVIII discusses the special provisions for waste asbestos, waste oil, hydrocarbon contaminated soil, pesticide and paint wastes.

Section XIX of this guide explains how to obtain permits or other forms of authorization for special waste management facilities. Anyone wishing to store, treat, or dispose of special waste should consult this section. The decision-making and appeal process for storage and discharge permits can be found in there.

Section XX is a brief summary of the offences and maximum penalties under British Columbia's special waste management legislation. Other penalties under federal legislation such as the Canadian Environmental Protection Act, the Transportation of Dangerous Goods Act, and the Fisheries Act, etc., may also apply in some circumstances.

Provincial requirements for contingency planning, spill reporting and management of spills are discussed in Sections XXI and XXII.

Other features of the guide are intended to make the Province's special waste system easier to use and understand. The inside cover contains an abbreviated list of contacts for various government agencies involved in the management of special wastes. A complete list of addresses and telephone numbers appears in Appendix A.

A listing of selected information sources is given in Appendix B. Samples of application and permit forms are provided in Appendix C. Appendix D gives a comprehensive review of the Transportation of Dangerous Goods classification system as applied to hazardous wastes. The glossary in Appendix E may be helpful for definitions of various technical terms.

As scientific knowledge of special wastes expands, it will be necessary to revise the laws and regulations governing these wastes from time to time. Therefore, users of the special waste management system should keep abreast of the current status of these laws and regulations by maintaining contact with the Ministry's Environmental Protection Program. In addition, as changes are made to the regulation of special waste, revisions to this guide may also be made. Users should be sure to check that they have the latest copies of the Special Waste Regulation, this guide, and the Waste Management Act. Since it was implemented on April 1, 1988 the Special Waste Regulation has been revised three times. This edition of the guide includes those changes.

Readers may obtain future revisions to this guide by completing and returning the "Request for Revisions" card provided on page 129.

Finally, this guide is not a legal document. In all cases the Waste Management Act and regulations take precedence. For further explanation of British Columbia's special waste management system, Special Waste Unit staff at Victoria headquarters or Regional offices of the Environmental Protection Program, should be consulted.

II INTRODUCTION

A. What are Special Wastes?

What's so special about special wastes? This is a group of wastes that are potentially hazardous to human health and the environment and which require special care during handling and disposal. Special management techniques are needed to eliminate or reduce the hazards. Special wastes are those materials which should not be sent to ordinary landfills or discharged into our sewer systems. More specialized management systems are required to deal safely with these wastes. Section VII of this document discusses a hierarchy of management options which should be followed when decisions are made on how a particular waste should be handled.

Special wastes can be corrosive, ignitable, infectious, reactive (explosive), toxic, bioaccumulative, mutagenic, carcinogenic or teratogenic and they can range from paints, oils and solvents, to acids, heavy metals, and pesticides. Most of us know them as the by-products of an industrialized society. Figure 1 shows quantities of special wastes generated in British Columbia during 1991 alone.

There are various ways of dealing properly with special wastes and this guide explains British Columbia's system for managing these troublesome substances, with particular emphasis on our special waste laws and regulations.

In the late 1970's, the lack of facilities for proper treatment and disposal of special wastes in British Columbia became clear through a number of serious situations. The need to clean up abandoned chemicals and contaminated work sites led the government to develop plans for a waste management system which could handle these hazardous materials.

Part of the initial planning included the commissioning in 1979 of consultants Reid, Crowther and Partners, to prepare a comprehensive special waste management strategy for the four western provinces, Northwestern Ontario, the Yukon and Northwest Territories, and the Federal Government of Canada.

Following publication of this strategy, in 1980 the Honourable Stephen Rogers established a Provincial "Hazardous Waste Advisory Committee" to advise him on steps to be taken to develop safe, acceptable methods and facilities for managing special wastes in British Columbia. This committee's recommendations were published in June, 1981 in the "Report of the Hazardous Waste Advisory Committee." This work formed the groundwork for the provincial special waste management program.

Most importantly, the committee recognized that a comprehensive special waste management system, with five major program elements, was necessary for B.C.:

- technologies to recycle, treat, store, transport and dispose of special wastes,
- operators for special waste management facilities,
- suitable locations for these facilities,
- laws and regulations to ensure the system operates properly and safely, and
- programs to inform the public about the special waste system.

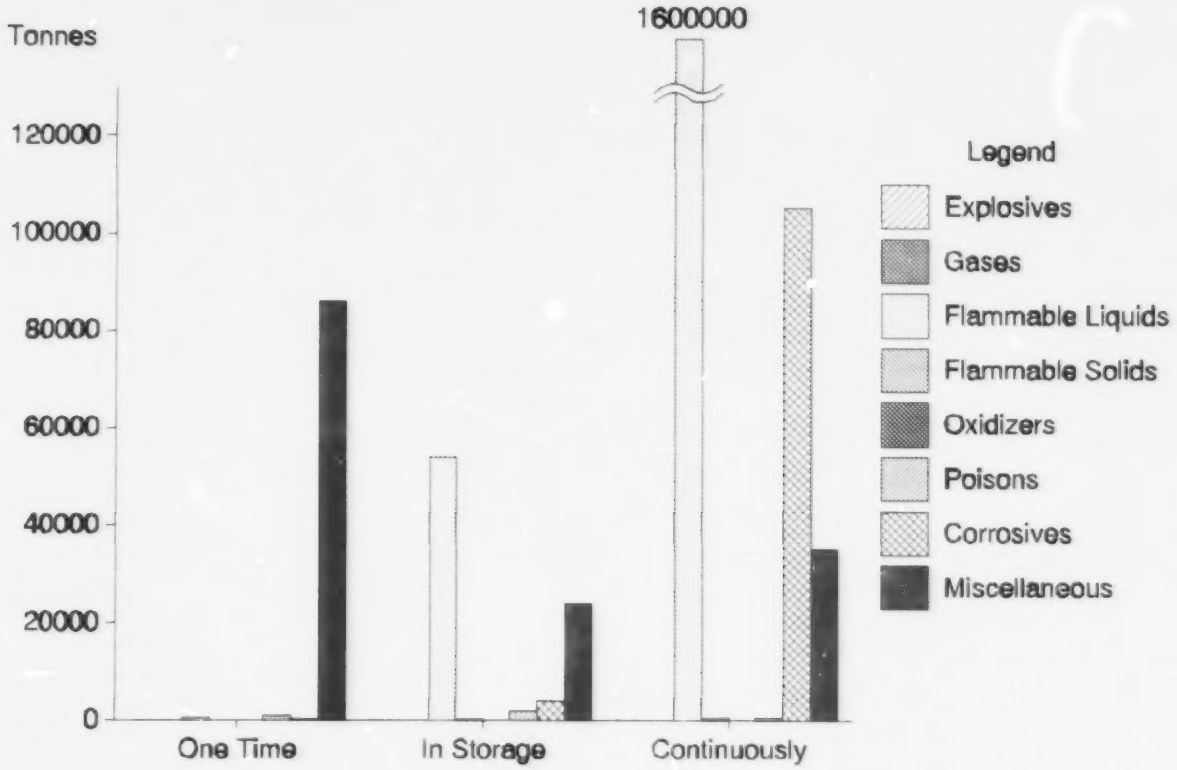
Significant progress has been made in the development of all five components. The Ministry will continue efforts to make further progress in these areas.

B. Legal Aspects

This document is a guide to the Province of British Columbia's legislation for special waste management. The Waste Management Act, the Special Waste Regulation, the Federal Transportation of Dangerous Goods Act, and the Environment Management Act are most relevant to this topic. A major impact of the Waste Management Act is to establish a comprehensive regulatory framework to manage special wastes through a transportation tracking system, together with a mechanism for controlling special waste storage, treatment, and disposal facilities. This Act provides a broad outline for the system and is accompanied by a regulation which provides much more detail for the program.

This regulation is formally entitled the "Special Waste Regulation" and is published separately from the Act. It covers such subjects as special waste registration, requirements for special waste facilities, containers for storing and

Figure 1: SPECIAL WASTES GENERATED AND STORED IN B.C.



Source: B.C. Generator Registration Database (1991 Data)

transporting special wastes, licensing of special waste carriers, and requirements for specific types of special waste. Because this guide is not a legal document, the Act and regulation governing special wastes in British Columbia take precedence in the event of differences of interpretation.

III WHEN IS A WASTE A SPECIAL WASTE?

What is a special waste? How do I know if I have a special waste? When am I subject to the Special Waste Regulation? The answers to these questions depend on four key considerations: a) whether a substance is a waste; b) the composition, properties, and origin of this waste; c) the definition of special waste; and d) the point in a process at which the waste is evaluated to determine if it is a special waste. Sections III.A, III.B, III.C, and III.D discuss these considerations in more detail below.

It is also helpful to understand that in 1985, British Columbia decided to join the other Provinces and the Federal Government to agree on a national definition of dangerous goods under the Transportation of Dangerous Goods (TDG) Act. Under the regulations pursuant to this Act, most hazardous (special) wastes are also part of the large group of regulated dangerous commercial goods and products.

In B.C. the definition and naming of special waste relies very heavily on the classification system contained in the TDG Regulations. For this reason it may be necessary for the waste generator to have a good understanding of these regulations and even have a copy of the regulations. The relationship between regulated dangerous goods and special wastes is shown schematically in Figure 2.

A. Waste Substances

A formal definition of waste is given in section 1 of the Waste Management Act. In addition to listing substances that would normally be considered waste, this definition also specifies that commercial value or usefulness does not exclude something from being a waste. This exclusion is important, because it broadens the definition of waste, and means that by-product, recyclable, and reusable substances have to be evaluated to determine if they are special waste.

B. Waste Composition, Properties and Origin

As with the TDG Regulations, the Special Waste Regulation places the primary responsibility for knowing the composition, properties, and origin of a waste with the generator. The services of a well equipped analytical laboratory may be required to determine some of this information. This knowledge is necessary for the proper evaluation of a waste, as well as for the protection of the generator, his employees, the public and the environment.

C. Definition of Special Waste

The definition of special waste (see section 1 of the Special Waste Regulation), specifies nine types of substances which are defined to be special waste, followed by a list of seven types of substances which are specifically excluded from being special waste. Many of the specified substances are further defined in section 1.

In essence, special waste is defined by a process of elimination. The composition, properties, and origin of a waste are evaluated against a series of descriptions, criteria, and excluded substances. If any of the descriptions match or any of the criteria are exceeded, and if no exclusion is applicable, then the waste is a special waste.

A standard sequence of steps is followed for this evaluation process. These steps follow from the definition of "special waste", and are described in more detail in section III.E of this guide.

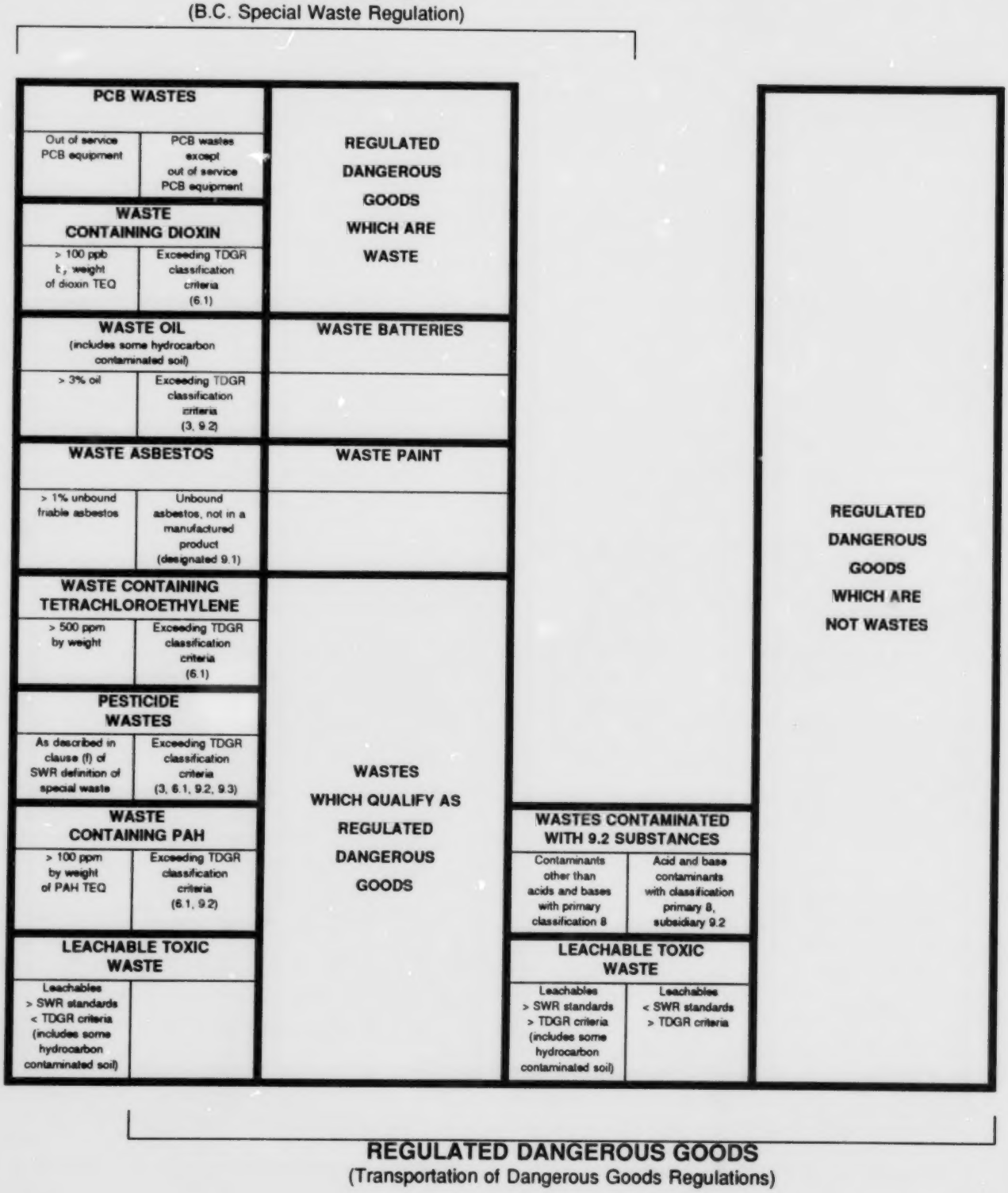
Note that [poly]chlorobiphenyl (PCB) wastes are specifically defined as special waste. PCB wastes are in turn defined to mean any liquid or solid containing more than 50 parts per million (ppm) by weight of PCB: this includes complete manufactured articles such as capacitors or transformers, which contain or are contaminated with PCB solids or liquids, and which are not in service.

While a substance which is not a special waste may be stored and transported without further reference to the Special Waste Regulation, the TDG Regulations may still apply if the substance is a dangerous good. Similarly, if a discharge to the environment is involved, disposal would also have to be in accordance with a permit, or other form of authorization under the Waste Management Act or its regulations.

D. Evaluation Point

The point at which a substance becomes waste, and possibly special waste, is important because it determines whether facilities for subsequent handling of the waste are also subject to the Special Waste Regulation. In many cases

Figure 2: RELATIONSHIP BETWEEN SPECIAL WASTE AND REGULATED DANGEROUS GOODS



this point will not be the point of discharge or final disposal.

Determination of the proper point for evaluation is one of the most difficult aspects in the implementation of the Special Waste Regulation. While it is not possible to give an answer that will apply in every case, it is suggested that generators should evaluate streams at the point in a process beyond which no useful product or purpose is derived. In some instances however, Environmental Protection Program staff may require that a different point of evaluation be used.

E. Steps for Determining a Special Waste

The method for determining whether a waste is a special waste is summarized in Figure 3. The individual steps are listed below.

The order in which these steps are carried out is important to ensure that the waste is designated correctly, particularly where wastes may meet the descriptions or exceed the criteria of more than one waste type.

Note that formal tests may not be required at each step, if the origin of a waste, the process generating it, or other information suggests that a particular test or description is not applicable.

Step 1. Start with the waste substance or process stream to be evaluated.

Note that commercial value, or usefulness, does not prevent a substance or stream from being waste—see section III.A.

Note also, that by definition of "PCB wastes", "PCB equipment" becomes waste as soon as it is taken out of service, whether or not there is an intent to reuse the equipment.

If the waste is being generated in a process, go back in the process to the point at which the waste is first generated—see section III.D.

Step 2. Check Table 1, to see whether the waste is excluded from being special waste by definition in the Special Waste Regulation.

Step 3. Establish a good characterization of waste constituents and composition, based on origin or analysis.

Step 4. Determine whether the waste is a dangerous good as defined and regulated under the TDG Act and Regulations.

Refer to Appendix D for a the procedure and examples applicable to wastes. Table 2 provides a listing of hazard classes and divisions under the TDG Regulations

In summary, use the TDG Regulations as follows:

a. Check Part I for relevant definitions.

b. Check Part II for substance(s) exempt from under the TDG Regulations.

Note that the exemption from regulation applying to dangerous goods within the confines of a single site (section 2.4(1)(b) of the TDG Regulations) does not apply to management of special wastes.

If the waste consists only of exempt substances, or a mixture/solution of exempt substances with non-dangerous goods, go to step 4.e. If not the case, continue with step 4.c.

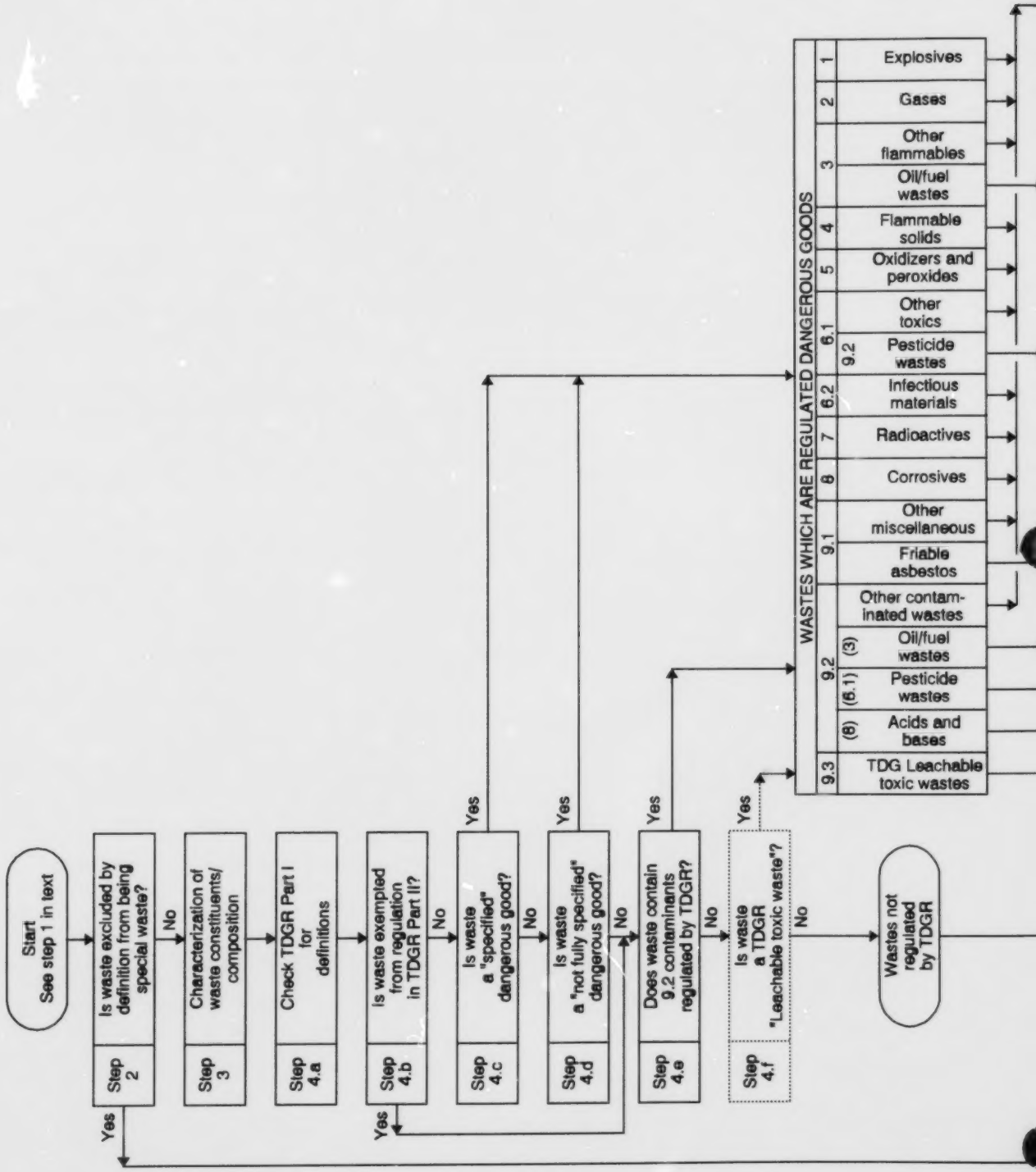
c. Determine if the waste is a single "specified" dangerous good, or a mixture/solution of a single "specified" dangerous good with other material that still exceeds the classification criteria for the dangerous good.

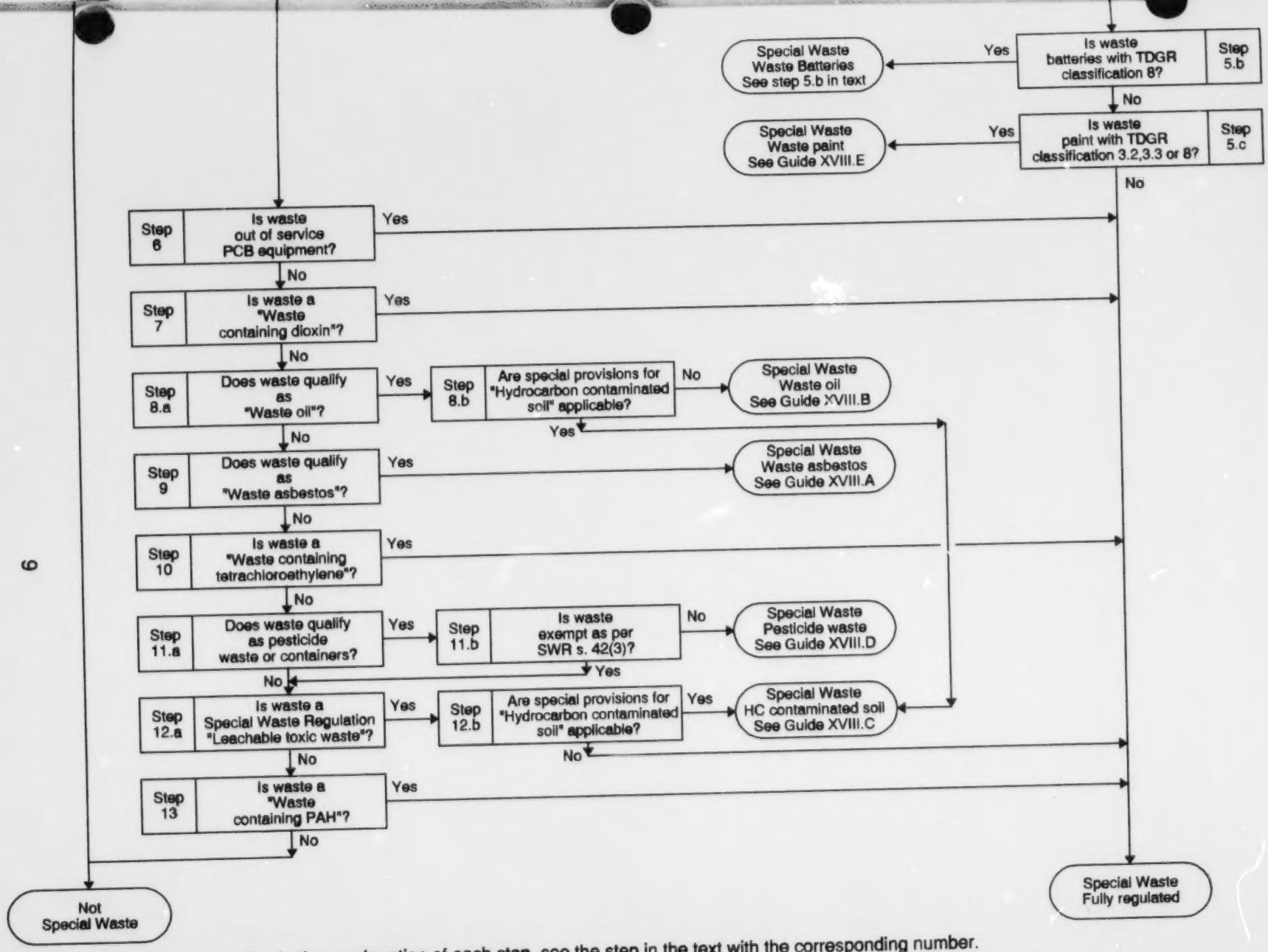
If this is the case, the waste is a dangerous good—go directly to step 5. If not the case continue with step 4.d.

Note that more than one dangerous good, or a mixture/solution of a dangerous good that has a different classification from the undiluted dangerous good, requires to be classified as a "not fully specified" dangerous good.

d. Determine if the waste is a "not fully specified" dangerous good.

Figure 3: DETERMINATION OF SPECIAL WASTE





For further explanation of each step, see the step in the text with the corresponding number.

Table 1: SUBSTANCES EXCLUDED FROM BEING SPECIAL WASTE BY DEFINITION

Household refuse that is collected from residential premises

Domestic sewage

Dangerous goods that are defective, surplus or otherwise not usable for their intended purpose and that are in the process of being returned directly to a manufacturer or supplier

Asphalts and tars used in the manufacture of asphaltic concrete and roofing materials

Radioactive dangerous goods included solely in class 7 of the TDG Regulations

Dangerous goods listed in List II of Schedule II of the TDGR and that have numeral "37" in Column IV of that list (listed below):

- Charcoal, activated *or* Carbon, activated
- Charcoal *or* Carbon, *animal or vegetable origin*
- Copra
- Cotton waste, oily
- Cotton waste, wet
- Fibres *or* Fabrics, animal or vegetable, n.o.s., *with animal or vegetable oil*
- Fish meal, stabilized, *or* Fish scrap, stabilized, *with moisture content greater than 5 per cent, by mass, but not greater than 12 per cent, by mass, and fat content no greater than 15 per cent by mass*
- Fish meal, unstabilized *or* Fish scrap, unstabilized
- Life-saving appliances, not self-inflating, *containing dangerous goods as equipment*
- Life-saving appliances, self-inflating
- Mine rescue equipment containing carbon dioxide
- Paper, unsaturated oil treated, *incompletely dried (including carbon paper)*
- Refrigerating machines, *containing flammable nonpoisonous, noncorrosive, liquefied gas*
- Seed cake, *mechanically expelled seeds, with more than 1.5 per cent oil and not more than 11 per cent moisture*
- Seed cake, *solvent extracted, with more than 1.5 per cent oil and not more than 11 per cent moisture*

Waste wood products treated with wood preservatives or wood protection products registered under the Pest Control Products Act (Canada)

Table 2: SUMMARY OF HAZARD CLASSES AND DIVISIONS

Class	Division	Description
1 - Explosives	1.1	A substance or article with a mass explosion hazard.
	1.2	A substance with a fragment projection hazard, but not a mass explosion hazard.
	1.3	A substance with either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.
	1.4	A substance or article which presents no significant hazard. Explosion effects are largely confined to the package. No fragment projections of an appreciable size or range are to be expected.
	1.5	A very insensitive substance, although it has a mass explosion hazard as in 1.1.
2 - Gases	2.1	A flammable gas.
	2.2	A non-flammable, non-toxic, non-corrosive gas.
	2.3	A poisonous gas.
	2.4	A corrosive gas.
3 - Flammable Liquids	3.1	Extremely flammable liquid (flash point of less than -18°C).
	3.2	Very flammable liquid (flash point not less than -18°C, but less than 23°C).
	3.3	Moderately flammable liquid (flash point not less than 23°C but less than 61°C).
4 - Flammable Solids, Spontaneously Combustible and Dangerous When Wet	4.1	A solid which under normal circumstances is readily ignitable and burns persistently; or, which causes or contributes to fire, through friction or from heat retained from manufacturing or processing.
	4.2	A substance liable to spontaneous combustion under normal conditions of transport; or, when in contact with air, liable to spontaneous heating to the point where it ignites.
	4.3	A substance which, on contact with water, emits dangerous quantities of flammable gases or becomes spontaneously combustible on contact with water or water vapour.
5 - Oxidizing Substances & Organic Peroxides	5.1	A substance which contributes to the combustion of other material by yielding oxygen or oxidizing substances, whether or not the substance itself is combustible.
	5.2	An organic compound that contains the bivalent "-0-0-" structure which is a strong oxidizing agent and may be liable to explosive decomposition or is sensitive to heat, shock or friction.
6 - Poisonous & Infectious Substances	6.1	A solid or liquid that is poisonous through inhalation, by skin contact or ingestion.
	6.2	Organisms that are reasonably believed to be infectious to humans or animals and the toxins of such organisms.
7 - Radioactive Materials		Radioactive materials with activity greater than 74 kBq/kg, within the meaning of the Atomic Energy Control Act.
8 - Corrosive Substances		A substance that causes visible necrosis of the skin or that corrodes steel or non-clad aluminum, or that has a pH less than 2 or greater than 12.5.
9 - Miscellaneous Dangerous Goods	9.1	A substance or product which presents sufficient dangers to warrant regulation, but which cannot be assigned to any other class.
	9.2	An environmentally hazardous substance.
	9.3	Leachable toxic products or substances.

in TDG classes 2, 3, 4, 5, 6, and 8 is required, unless this has been done previously.

If the waste is a "not fully specified" dangerous good, go directly to step 5. If not the case, continue with step 4.e.

e. Determine if the waste contains any substances having a 9.2 classification according to the TDG Regulations, at greater than specified levels.

For PCBs the specified level is 50 ppm by weight; for most other substances having a 9.2 classification, the level is 100 ppm by weight; other levels may apply for substances regulated under the Food and Drugs Act, the Feeds Act, or the Environmental Contaminants Act.

If the waste contains a substance having a 9.2 classification at greater than allowable levels, the waste is a dangerous good—go directly to step 5.

If the waste is neither a specified nor a not fully specified dangerous good, and does not contain any substances having a 9.2 classification above allowable levels, go directly to step 6.

[f. The test for a TDG Regulation "leachable toxic waste" is shown at this stage, because it may be required for transportation purposes. Refer to Appendix D for details.

For waste management according to the Special Waste Regulation, testing for leachable contaminants is deferred to step 12.a.

Note that there are some differences between the TDG Regulation and Special Waste Regulation leachate extraction tests, both in procedure and in allowable contaminants (compare Table 3, page 14 and Table 21, page 122).]

Step 5. Check for provisions that may allow a waste which is a regulated dangerous good to be managed in a less restrictive manner.

a. For purposes other than transportation, the wastes listed below, which are regulated dangerous goods, should be "removed" from their TDG classifications and evaluated according to the remainder of the special waste determination procedure.

Check if the waste is:

- a diluted acid or base which as a result of dilution, no longer has a primary classification of 8, and the <u>only</u> reason the waste is a dangerous good is because the undiluted acid or base is designated as a substance with TDG classification 9.2 (such wastes may be completely exempt from the Special Waste Regulation),
- a dangerous good <u>only</u> because it is a leachable toxic waste according to TDG leachate criteria,
- pesticide wastes, or empty pesticide containers,
- oil and fuel wastes (including those containing lead), and substances contaminated with these materials, or,
- asbestos wastes.

If any of the above are applicable, go directly to step 6.

If none of the above are applicable, the waste is special waste and the determination procedure is complete, unless the waste is batteries or paint as defined and classified by the TDG Regulations.

b. Check if the waste is batteries with classification 8.

If the waste qualifies as batteries, it is special waste, but the quantities requiring registration, authorization for storage, and manifesting for transportation are greater than those for other wastes with classification 8 (see Table 4 page 21, Table 15 page 87, and section VI.D.1. of this guide). The determination for this waste is complete.

c. Check if the waste is paint with primary classification 3.2, 3.3, or 8.

If the waste qualifies as paint, it is special waste, but may be managed according to less restrictive provisions (see sections XVIII.E, and VI.D.1 of this guide). The determination procedure for this waste is complete.

Step 6. Check whether the waste is "PCB wastes".

Note that the Special Waste Regulation definition of "PCB wastes" includes "PCB equipment" that is not in service. Other types of "PCB wastes" are classified as "specified" or "not fully specified" dangerous goods.

If the waste or equipment is "PCB wastes", it is special waste, and the determination process is complete. If not the case, continue with step 7.

Step 7. Check whether the waste is a "waste containing dioxin".

Because there are many different types of chlorinated dioxin and related furan compounds of varying toxicity, a weighted calculation procedure is used to generate a single, dioxin toxicity equivalent (TEQ) value, for evaluating wastes contaminated with chlorinated dioxins and furans. The procedure is defined in section 1 of the Special Waste Regulation.

The procedure simply means adding products of measured concentrations and respective toxicity equivalency factors of the compounds as listed in Schedule 1 of the regulation. If a measured concentration is below the detection limit of the analytical method, use one-half the value of the detection limit of the method.

If the waste contains more than 100 parts per billion (ppb) by weight of dioxin TEQ, it is special waste, and is subject to all the provisions of the Special Waste Regulation. The determination procedure for such wastes is complete.

If the waste is not a waste containing dioxin go to step 8.

Step 8. a. Check whether the waste qualifies as "waste oil".

Note that wastes containing as little as 3% by weight of oil may qualify, and that this may include some hydrocarbon contaminated soils.

If the waste does not qualify as waste oil, go directly to step 9. If the waste is waste oil, continue with step 8.b below.

b. Check whether the waste qualifies for the special management provisions as "hydrocarbon contaminated soil" (i.e. meets the definition in section 1 of the Special Waste Regulation, of "hydrocarbon contaminated soil", <u>and</u> does not exceed the maximum contaminant values given in Table 12, page 81).

If the waste qualifies as hydrocarbon contaminated soil, it is special waste, but may be managed according to less restrictive provisions (see section XVIII.C in this guide).

If the waste does not qualify as hydrocarbon contaminated soil, it is special waste and may be managed according to less restrictive provisions for waste oil (see section XVIII.B in this guide). The determination procedure for such wastes is complete.

Step 9. Check whether the waste qualifies as "waste asbestos".

Note that asbestos which is tightly bound so that fibres or dust are not easily released (such as in hardboard or brake

Table 3: SPECIAL WASTE REGULATION LEACHATE QUALITY STANDARDS

Contaminant	Concentration in Waste Extract (mg/L)
Aldicarb	0.90
Aldrin + Dieldrin	0.07
Arsenic	5.00
Barium	100.00
Benzene	0.50
Boron	500.00
Cadmium	0.50
Carbaryl/1-Naphthyl-N-methyl carbamate	9.00
Carbon tetrachloride	0.50
Chlordane	0.70
Chromium	5.00
Copper	100.00
Cyanide (free)	20.00
Diazinon	2.00
DDT	3.00
2,4-D	10.00
Ethylbenzene	0.24
Fluorides	150.00
Heptachlor + Heptachlor epoxide	0.30
Lead	5.00
Lindane	0.40
Mercury	0.10
Methoxychlor	90.00
Nitrate + Nitrite	1 000.00
Nitrilotriacetic acid (NTA)	5.00
Parathion	5.00
Pentachlorophenol	3.00
Selenium	1.00
Silver	5.00
Tetrachlorophenol, 2, 3, 4, 6-	0.10
Toluene	2.40
Trichlorophenoxyacetic acid, 2, 4, 5- (2, 4, 5-T)	28.00
Trihalomethanes	35.00
Uranium	10.00
Xylenes	30.00
Zinc	500.00

linings) is not special waste, and is not subject to the Special Waste Regulation.

If the waste asbestos contains more than 1% friable (easily crumbled) asbestos, it is special waste, but may be managed according to less restrictive provisions (see section XVIII.A in this guide). The determination procedure for such wastes is complete.

If the waste does not qualify as waste asbestos, go directly to step 10.

Step 10. Check whether the waste is a "waste containing tetrachloroethylene". If the waste contains more than 500 ppm by weight of tetrachloroethylene, it is special waste, and is subject to all the provisions of the Special Waste Regulation. The determination procedure for such wastes is complete.

If the waste is not a waste containing tetrachloroethylene, go to step 11.

Step 11. a. Check whether the waste is a waste containing pesticides (i.e. waste pest control product containers, a waste containing pest control products or wastes produced in the production of treated wood products using pest control products).

If the waste is a waste containing pesticides, go to step 11.b.

If the waste is not a waste containing pesticides, go to step 12.a.

b. Check whether the waste qualifies for "delisting" from being a waste containing pesticides.

If the waste does not exceed any of the criteria specified in section 42.(3) of the Special Waste Regulation, it is not a waste containing pesticides. Go to step 12.a.

If the waste does exceed any of the criteria, it is special waste but may be managed according to less restrictive provisions (see section XVIII.D in this guide). The determination procedure for such wastes is complete.

Step 12. a. Test the waste according to the Leachate Extraction Procedure specified in Schedule 4, Part 1 of the Special Waste Regulation.

Note that this test applies to liquids, solids and liquid/solid mixtures. If the separated solids from a mixture comprise less than 0.5% by weight, then the liquid alone is analysed for contaminants.

If the level of any contaminant in the extract exceeds a value for that contaminant given in Table 3, the waste is a "leachable toxic waste".

Note that this may include some hydrocarbon contaminated soils.

If the waste is not a leachable toxic waste, go directly to step 13.

If the waste is a leachable toxic waste, continue with step 12.b below.

b. Check whether the waste qualifies for the special management provisions as "hydrocarbon contaminated soil" (i.e. meets the Special Waste Regulation definition of "hydrocarbon contaminated soil", and does not exceed the maximum contaminant values given in Table 12, page 81).

If the waste qualifies as hydrocarbon contaminated soil, it is special waste, but may be managed according to less restrictive provisions (see section XVIII.C in this guide).

If the waste does not qualify as hydrocarbon contaminated soil, it is special waste and is subject to all the provisions of the Special Waste Regulation. The determination procedure for such wastes is complete.

Step 13. Check whether the waste is a "waste containing polycyclic aromatic hydrocarbons" (PAH).

As with dioxins and furans, there are many different types of PAH compounds with varying toxicity. A similar weighted calculation procedure is used to generate a single, PAH toxicity equivalent (TEQ) value, for evaluating wastes contaminated with PAHs. Again the procedure is defined in section 1 of the Special Waste Regulation. If a measured concentration is below the detection limit of the analytical method, use one-half the value of the detection limit of the method.

If the waste contains more than 100 ppm by weight of PAH TEQ, it is special waste, and is subject to all the provisions of the Special Waste Regulation. The determination procedure for such wastes is complete.

If the waste is not a waste containing PAH, and the complete determination procedure has been correctly followed, the waste is not special waste, and is not regulated by the Special Waste Regulation.

F. Classification and Naming of Special (Hazardous) Wastes

For waste management purposes, and to assist emergency response personnel, all special wastes must be classified and named according to a consistent protocol.

Use of the procedure in section III.E, not only determines whether a waste is special waste, but also provides the correct classification and name for wastes found to be special waste.

However, because of overlap between the Special Waste Regulation and the TDG Regulations, some wastes may be classified and named under one regulation, but not the other; in a very few cases, wastes may have two different classifications and names. For example, waste oil with a flash point of 50°C is classified and named as "waste oil" under the Special Waste Regulation, and as "waste petroleum oil", class 3.3, packing group III under the TDG Regulations. In such cases, the Special Waste Regulation classification and name applies for waste management purposes within B.C., excluding transportation (e.g. completion of Generator Registration Forms), and the TDG classification and name applies for all other purposes (e.g. Waste Manifests, etc.).

For waste management purposes in B.C. according to the Special Waste Regulation, naming is as follows:

1. Wastes which are classified as "specified" regulated dangerous goods in step 4.c of section III.E, but for which no separately defined special waste type, or exemption under the Special Waste Regulation is applicable.

   Name according to the TDG Regulations. For detailed explanation, consult the regulations or Appendix D.

   a. A TDG Regulation "Waste Type" (listed in lower case letters at the beginning of the W's in List II of Schedule II).

      Name as "Waste Type *XX*" where *XX* is the applicable waste type number.

      For example, spent pickle liquor from steel finishing operations is:
      Waste Type 81.

   b. A TDG Regulation specified dangerous good (listed in lower case letters in Schedule II)

      Name as "Waste *shipping name*", unless waste is already part of the shipping name, in which case use the shipping name alone.

      For example, copper arsenite which is waste is:
      Waste copper arsenite.

      See page 118 for list of not fully specified dangerous goods

      If the shipping name ends in "n.o.s.", or *"n.o.s."* is appended, the technical name of the substance causing the waste to be classified is added after the shipping name. Where *"n.o.s."* is italicized, it is not part of the shipping name.

For example, waste ammonium bisulphite solution is:
Bisulphites, inorganic, aqueous solutions, n.o.s. (ammonium bisulphite).

c. A mixture or solution of a single TDG Regulation specified dangerous good.

Name as "Waste *shipping name* mixture", or "Waste *shipping name* solution", unless mixture or solution is already part of the shipping name, in which case use the shipping name alone.

For example waste methanol solution is:
Waste methanol solution.

2. Wastes which are classified as "not fully specified" regulated dangerous goods in step 4.d of section III.E, but for which no separately defined special waste type, or exemption under the Special Waste Regulation is applicable.

Name as for "specified" dangerous goods, but using the appropriate "not fully specified" shipping name.

For example, waste copper naphthenate liquid is:
Waste copper based pesticides, liquid, toxic, n.o.s. (copper naphthenate).

3. Wastes which are classified as containing a substance having a 9.2 classification in step 4.e of section III.E, but for which no separately defined special waste type, or exemption under the Special Waste Regulation is applicable.

Name as "Waste contaminated with *shipping name*" where *shipping name* is the technical name of the dangerous good that would be responsible for the primary classification if the waste were not diluted.

For example, a dilute solution containing more than 100 ppm by weight of chromic acid but not exceeding the criteria for class 8, is:
Waste contaminated with chromic acid.

4. Wastes which are classified and named under the TDG Regulations as "leachable toxic waste" in step 5.f of section III.E, are not necessarily classified and named as "leachable toxic waste" under the Special Waste Regulation.

For example, a soil which produces a leachate extract containing 1.0 mg/L of diazinon, is not classified or named as a leachable toxic waste under the Special Waste Regulation. Under the TDG Regulations, this soil is Leachable toxic waste (L13).

For waste management purposes within B.C., these wastes should be classified and named according to the Special Waste Regulation, if applicable. For other purposes, see Appendix D.

5. Wastes which are classified as "PCB wastes" in step 6 of section III.E.

Name as "PCB wastes".

6. Wastes which are classified as "waste containing dioxin" in step 7 of section III.E.

Name as "Waste containing dioxin".

7. Wastes which qualify as "waste oil", but not as "hydrocarbon contaminated soil" in step 8 of section III.E.

Name as "Waste oil", "Waste oil contaminated with lead", or PETROLEUM OIL (UN1270), as applicable.

8. Wastes which qualify as "hydrocarbon contaminated soil" in steps 8.b or 12.b of section III.E.

Name as "Hydrocarbon contaminated soil".

9. Wastes which qualify as "waste asbestos" in step 9 of section III.E.

Name as "Waste asbestos".

10. Wastes which are classified as "waste containing tetrachloroethylene" in step 10 of section III.E.

Name as "Waste containing tetrachloroethylene".

11. Wastes which contain pesticides, as determined in step 11.b of section III.E.

    a. Unrinsed, empty waste pest control product containers that are not labelled "Domestic", or wastes exceeding any of the criteria for TDG classes 3 to 6.1, 8, or 9.2.

       Name according to the TDG Regulations. For a detailed explanation, consult the regulations or Appendix D.

    b. Wastes containing pest control products which do not exceed any of the criteria for TDG classes 3 to 6.1, 8, or 9.2, but which have an aquatic toxicity greater than 500 mg/L.

       Name as "Waste containing pest control products".

12. Wastes which are classified by the Special Waste Regulation as "leachable toxic waste", but not as "hydrocarbon contaminated soil" in step 12 of section III.E.

    Name as "leachable toxic waste (*contaminant*)" where *contaminant* is that substance for which the extract concentration given in Table 3 is exceeded.

    For example, a waste containing 1.0 mg/L of carbon tetrachloride is: Leachable toxic waste (carbon tetrachloride).

13. Wastes which are classified as "wastes containing PAH" in step 13 of section III.E.

    Name as "Waste containing PAH".

IV GENERATOR REGISTRATION

A. Requirement for Registration

The Waste Management Act and the Special Waste Regulation require that any person (used in the legal sense, which includes partnerships and companies) in British Columbia who produces, stores, or offers for transport more than a prescribed quantity of special waste must register with the Director, Industrial Waste and Hazardous Contaminants Branch, or a Regional Environmental Protection Manager of the Ministry of Environment, Lands and Parks. This requirement is an important part of the cradle-to-grave management of special waste and allows waste managers to make policy and operational decisions based on facts rather than speculation.

The requirement to register specifically includes situations where special wastes are produced and immediately treated or disposed, or where special wastes are temporarily stored.

The only situations exempt from the requirement to register, are the transportation of special waste into the Province by generators outside British Columbia, or the recycling of special waste on-site without intermediate storage.

Note that the terms "generator" and "generation site" are used in this section for convenience. However, these terms, and the requirements described for them, should be understood to apply equally to any person storing or consigning special waste, and to any site where these activities take place.

1. Special wastes produced and immediately treated or disposed

Registration is required for special wastes which are produced and immediately treated or disposed without being put into storage. In this case, the waste generator determines the amount of waste generated over a 30-day period and registers that quantity. This situation usually arises where small quantities of special waste are produced, which are either shipped off-site or are immediately disposed on-site.

To illustrate this situation, consider an example where a forest company produces a small amount of contaminated sawdust from a spray booth operation. The waste is collected daily and burned in a high temperature boiler. To determine if they need to register this waste, the company measures or estimates the amount of contaminated sawdust produced in a 30-day period. If the amount is greater than the prescribed amount for that class or type of special waste (100 kg for waste pesticides), the company is required to register the waste.

2. Temporary Storage of Special Waste

The registration requirement includes situations where more than a prescribed quantity of waste is stored only temporarily. For purposes of the Special Waste Regulation, "temporary" means a period of less than 14 days.

Such situations may occur at transfer stations, or at depots where waste awaits onward shipment. A typical example is the case where waste is temporarily stored at a ferry terminal. Although registration is required for temporary storage, other requirements are normally waived.

3. Generators outside British Columbia

Generators outside British Columbia who transport special waste into the Province need not register their wastes. However, generators who ship waste to British Columbia on a regular basis are encouraged to register voluntarily so that their types and quantities of waste are also included in the registration database.

In making a voluntary registration, an out-of-province generator should indicate his own generator registration number if one is issued by his own jurisdiction. This number should be used in all correspondence with the Environmental Protection Program.

4. On-site recycling without intermediate storage

Any special waste which is recycled on-site without intermediate storage, or with only "temporary storage", does not need to be registered. In-process waste such as the contents of waste holding tanks where complete recycling always occurs in less than 14 days, are considered to be temporary storage in this context.

Wastes recycled on-site do not have a significant impact on the waste management system and, therefore, information on them is not necessary for policy or operational decision-making.

This exemption is intended to encourage on-site recycling wherever possible.

B. Registration Quantities

The prescribed quantity of special waste for which registration is required, depends on the waste type or classification, as shown in Table 4. The quantities in the table are based on the relative hazard of each waste classification.

For the specifically named waste types in Table 4, registration is required if the quantity of waste produced in 30 days, or stored or offered for transport at any time, exceeds the corresponding "Registration Quantity".

For all other classes of special waste, registration is required if the quantity of waste is greater than the smallest "Registration Quantity" corresponding to any primary or subsidiary classification for the waste.

Section III and Appendix D in this guide, and Part III of the Transportation of Dangerous Goods (TDG) Regulations contain more information about the classification process.

1. Single wastes with more than one classification

For wastes other than those named in Table 4, the classification which results in the most restrictive registration quantity will apply for the purposes of generator registration.

For example, ethylene dichloride is listed in Schedule II of the TDG Regulations with three classifications: a primary classification of 3.2 and two subsidiary classifications of 6.1 and 9.2. These classifications correspond to registration quantities of 500, 100 and 5 litres, respectively. Therefore generation in any 30-day period, or storage, or offering for transport at any time, of more than 5 L of waste ethylene dichloride needs to be registered, regardless of the primary classification.

2. Waste mixtures of substances having different classifications

As in the previous example, if a waste is made up of two or more hazardous substances, and the mixture still exceeds the classification criteria for each of the substances, the registration quantity depends on the classification which results in the most restrictive registration quantity.

For example, for a waste mixture consisting of an alcohol (class 3.2 packing group II) and ethanolamine (class 8 packing group III), the registration quantity is 100 L, if the criteria are still exceeded for each of these classifications.

C. Allowable Time for Registration (S. 43)

Special waste which existed when the Regulation first came into effect on April 1, 1988, should have been registered by now, and must be managed according to the Regulation.

Any special waste produced after April 1, 1988, has to be registered within 30 days of the date the waste is produced or is put into storage. Where a test is required to determine whether the amount of waste generated in a 30-day period exceeds the registration quantity (as discussed previously in the forestry company example), registration is required within 30 days of the end of the 30-day generation test period.

D. Completing the Initial Registration Form

To register a special waste, a generator must first obtain a copy of Form 1A (Initial Generator Registration) shown in Figure 4, available from any office of the Environmental Protection Program. Addresses and telephone numbers of these offices are given in Appendix A.

Separate forms must be used for each generation site. One form may be used for each generation site, where all special waste from that generation site is either managed on-site, or shipped to a single management site or single special waste contractor.

Where special waste from one generation site is managed at more than one off-site management site, separate forms are required for each different off-site management site.

The consignor identification number is issued to the person responsible for the special waste. Normally only one number is issued each generator. In cases where a company has a

Table 4: GENERATOR REGISTRATION QUANTITIES

Waste Classification or Name	Registration Quantity (kg or L as appropriate)
1	5
2.1	500 *
2.2	1 000 *
2.3	50 *
2.4	50 *
3.1	100
3.2	500
3.3	1 000 *
4.1	1 000 *
4.2	100
4.3	100
5.1	100
5.2	5
6.1	100
6.2	100
8	100
9.1	500
9.2	5
9.3	1 000
waste asbestos	1 000
waste oil or waste oil contaminated with lead	5 000
waste pest control products	100
waste pest control product containers	500 *
leachable toxic waste	1 000
waste batteries†	2 000
waste containing dioxin	5
waste containing polycyclic aromatic hydrocarbons	5
waste containing tetrachloroethylene	200

* total liquid volume capacity of container(s)

† filled, or drained of electrolyte

Figure 4: INITIAL GENERATOR REGISTRATION FORM

LOGO Province of British Columbia — Ministry of Environment, Lands and Parks

Initial Generator Registration

Form 1A
Under the authority of the
Special Waste Regulation
Schedule 5, Section 43

SECTION 1	GENERATOR IDENTIFICATION				
Company Name	4				
Mailing Address	5				
	PO Box or Street	City	Prov	Country	Postal Code

SECTION 2	SPECIAL WASTE DESCRIPTION								
	Waste Identification				Quantity				
Physical State	Name of Waste	PIN	TDG Class	Now in Storage	Produced/ 30-day Period	Units L/KG	Handling Code	Generation Code
a) 7	8	9	10	11	12	13	14	15
b)								
c)								
d)								
e)								

SECTION 3	BUSINESS GENERATING SPECIAL WASTE				
3a	General Business Type	16			
3b	Source of Special Waste	17			
3c	Generation Site	18	BC		
		Address	City	Province	Postal Code
3d	Waste Managed By	19			
3d	Management Site	20			
		Address	City	Province Country	Postal Code

SECTION 4	CERTIFICATION		
I CERTIFY THAT THE INFORMATION PROVIDED ON THIS FORM IS CORRECT AND COMPLETE.			
	21		( ) -
PRINT NAME	SIGNATURE	DATE (YY/MM/DD)	TELEPHONE NUMBER

FOR MINISTRY USE ONLY																				
REGIONS	LM		VI		TN		CA		OP		OK		SK		KO	
LATITUDE:	DEG		MIN		SEC		LONGITUDE:	DEG		MIN		SEC				
SPWASTE:	ENTRY#		DATE			INITIALS										
SPCW:	ENTRY#		DATE			INITIALS										
SIC CODE			BCG#													

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ORCS 66200-01

number of decentralized operations, consignor identification numbers are issued to the office which is responsible for the shipments. If the head office takes responsibility for all shipments, only one number is issued. If local offices take responsibility for their own shipments, separate numbers are issued to each local office.

Larger companies should take steps to ensure that all special wastes are registered, but that duplication of registrations is prevented. To illustrate the completion of the registration form, the following fictitious example is used:

A large industrial parts cleaner continuously generates spent chlorinated solvent which is accumulated for about a month prior to batch, on-site solvent recovery; the sludge from the solvent recovery operation, contaminated with solvent and metals is then shipped off-site within a week for incineration; the leachable toxic ash residues are shipped to a third location where they are chemically stabilized and then landfilled. A significant quantity of waste oil from other operations is also generated, which is sent to an off-site oil recycler.

The instructions below are referenced by number to the corresponding sections in Figure 4. Note that there are spaces left in the numbering sequence, to allow use of the same numbers for explanation of the corresponding sections of the Generator Registration Update form.

4 Generator Name
Enter the name of the special waste generator. In the case of a partnership or proprietorship, this is the name of the principal(s). For companies, it is their "legal" name exactly as registered with the B.C. Registrar of Companies. If the generator conducts business under a separate unregistered company name or style this must also be entered. For example, John J. Jones dba Jones Brothers (dba is acronym for "doing business as").

5 Generator Address
Enter the generator address. For companies this is their legal address as registered with the B.C. Registrar of Companies. In the case of out-of-province companies, the corporate head office mailing address is required. Be sure to use the correct postal code.

7 Physical State of Waste
Indicate the physical state for each individual special waste by the appropriate letter designation. In general terms, a liquid is a waste which has a minimal or negligible amount of solid material; a solid is a waste which has no free liquid; and a sludge is a waste which has solids mixed with free liquid. Use the following letters:

- L = liquid
- S = solid
- G = gas
- X = sludge.

Note that a separate line in the table should be used, each time that a management method alters the form, quantity or properties of a special waste. For the solvent generator in the illustrative example, one line is used to record details of the spent solvent, and a second line for the sludge. Details of the waste oil generated are recorded on a separate form (not shown), because the off-site management site is not the same as for the solvent sludge. See also notes at 22, Management Site Address.

8 Waste Name
Enter the waste name as it is identified by the Special Waste Regulation and the TDG Regulations, and explained in section III.F.

9 PIN
PIN is the abbreviation for Product Identification Number. For wastes classified in TDG Regulation classes, this is the number, found in Column II of Schedule II of the TDG Regulations, which corresponds to the applicable shipping name in column I. Enter the PIN exactly as listed in the TDG Regulations.

For waste types which are specifically named by the Special Waste Regulation and which do not have a PIN (e.g. waste containing dioxin), enter "N/A" (not applicable).

See Section III and Appendix D in this guide, and Part III of the TDG Regulations for information on classification of special waste.

10 TDG Class
For wastes classified in TDG Regulation classes, this is the primary classification corresponding to the applicable shipping name of the waste. This number identifies the primary hazard class of each waste. Do not enter the subsidiary classification numbers (if any).

IV GENERATOR REGISTRATION

For waste types which are specifically named by the Special Waste Regulation and which do not have a TDG Regulation class, enter "N/A".

11 Quantity in Storage
Enter in metric units the numerical quantity of any special waste currently in storage, excluding any waste which is only in "temporary storage" (storage which is always less than 14 days). Waste in tanks and or ponds that are part of a treatment process should not be reported as quantity in storage. Holding tanks where no treatment takes place and are not part of a treatment process and turnover is more than 14 days, quantities in storage should be reported.

12 Quantity Produced in 30 Days
Enter in metric units the numerical quantity of waste generated in a 30-day period. This applies even if the waste production is intermittent. The 30-day period begins on the day the waste is first produced.

13 Units
Enter the metric units (kilograms or litres) corresponding to the quantities recorded to be in storage or generated.

14 Handling Code(s)
The handling code is a number signifying the method used to manage the special waste, at the site for which the generator registration is being filed. The available codes are:

- 01 = storage
- 02 = thermal treatment
- 03 = chemical treatment
- 04 = physical treatment
- 05 = biological treatment
- 06 = landfill
- 07 = recycled
- 08 = other (specify)
- 09 = landfarming

Enter the code number for the method now being used, not what might be done with the waste at some time in the future. If more than one handling code is applicable, enter the code for the last known operation applied to bulk of the waste.

In the industrial parts cleaner example, the handling code for the solvent recycled on-site is 07 (recycled). The handling code for the sludge is 02 (thermal treatment). The code for waste oil is 07 (recycled), as well.

If the method for managing the waste does not match any of those listed, enter "08" in the Handling Code column, and specify the type of management in the blank provided.

15 Generation Code
The generation code indicates the frequency or continuity of waste generation. Mark the appropriate box for each waste according to the following:

- A = waste is generated one time only
- B = waste is generated intermittently, i.e. not every 30 days
- C = waste is generated continuously, i.e. in each 30-day period.

16 General Business Type
Enter the general business type such as sawmill, restaurant, petroleum refinery, etc.

17 Source of Waste
Enter the source or type of process generating the special waste, as specifically as possible for all of the wastes listed in the Special Waste Description section above. If the wastes are from more than one operation, list and identify the source of each waste in sequence.

For the industrial parts cleaner in the illustrative example, the sources are listed as: degreasing operation (a); solvent recovery (b). The letters in brackets identify the wastes listed in section 2 of the form.

18 Generation Site
The address of the generation site should be entered as clearly as possible. A separate registration form is required for each different generation site. For remote or rural locations, it is appropriate to give the location by the distance and road name such as "5 km east of Anytown, B.C. on Hwy. 99". Do not enter postal box numbers.

19 Company Name of Management Site Operator
Enter the legal name of the company managing the waste, if this is different from the company registering as the generator. Use a separate form if there is more than one management company or address (see below).

20 Management Site Address
The management site is the place where the special waste is managed. This is the generation site if no waste leaves the site. If the waste is

shipped off site, the management site is the first off-site place at which bulk of the waste is managed.

A separate registration form is required for each special waste handled at a different management site.

For the industrial parts cleaner in the example, the incinerator site is shown as the management site for the solvent sludge. The incinerator operator has the responsibility for registering his own site, and showing the landfill location for the ash residues. A separate registration form is required for the waste oil which is shipped to a recycler.

21 Certification

The generator or his agent is required to certify that the information provided on the registration is correct. The certifying person may be an employee of the special waste generator. If an agent is certifying, he should indicate his company name, if applicable, after his name.

After completing the Generator Registration form it should be mailed to the Regional Environmental Protection Manager of the Region in which the generation site is located (listed on the reverse of the form or in Appendix A).

E. After Registration

After the completed Initial Generator Registration report has been sent to the Regional Environmental Protection Manager, the registrant can expect a letter acknowledging receipt. By completing the registration process within 30 days, the registrant also meets the requirements of section 4(2) of the Waste Management Act.

The data received on the registration form is entered into a computerized database. Technical staff from the Environmental Protection Program review the registration forms and the registrant may be contacted to clarify information if necessary. The registrant can expect to be asked to apply for a storage permit, or to otherwise manage the waste in a manner according to the Special Waste Regulation.

At this time, the generator (consignor) is issued a five digit "Consignor Identification Number". This number is unique to each special waste generator, and must be used on all manifests and other correspondence related to transportation and management of special waste. It is used in the data management system to prevent errors in consignor identification. The consignor identification number is also known as a "BCG No." for short.

F. Changes to Generator Registration Information

A special waste generator is required to keep the information submitted on the Initial Generator Registration report current. Whenever there is any substantial change in any of the information previously submitted, the generator must complete and submit a Generator Registration Update report (Form 1B) to the Regional Environmental Protection Manager, within 30 days of the change.

A Generator Registration Update form should be submitted for any of the following reasons:

- change of generator legal name
- change of generator legal address
- change of 10% or more in special waste quantities stored or generated
- change of special waste properties or description
- change of handling method
- change of generation site address
- change of company managing the special waste
- change of management site address

A revised registration may result in a reassessment of the generator's special waste management system particularly if it involves a change in quantity, waste classification or handling practice. The manager may then require that steps be taken to improve a particular management facility if this is considered necessary.

However, a generator should not wait for action by the manager as it is the responsibility of a waste generator to ensure that the waste is managed according to all applicable provisions of the Waste Management Act and the regulations.

G. Completing the Registration Update Form

IV GENERATOR REGISTRATION

To replace, renew, or update a previous Generator Registration, the generator must first obtain a copy of Form 1B (Generator Registration Update) shown in Figure 5, available from any office of the Environmental Protection Program. Addresses and telephone numbers of these offices are given in Appendix A.

The instructions below are referenced to the corresponding sections in Figure 5. Often, the explanation of the information to be entered is identical to that for the Initial Generator Registration. For more clarification, refer to the instruction having the same number in section IV.D.

The Generator Registration Update report can update an Initial Generator Registration report, or subsequent Generator Registration Update reports: the term "previous generator registration report" therefore means the most recently submitted Initial or Update report, as applicable.

[1] Consignor Identification Number
Enter the five digit Consignor Identification Number (BCG No.) issued after initial registration. Out-of-province consignors should continue to use the number issued by their own jurisdiction.

[2], [3] Previous Generator Registration
Enter the date of, and the name of the person who certified, the previous generator registration report that this report updates (i.e. the name and date appearing in the "Certification" section of the previous generator registration report).

[4], [5] Generator Name and Address
Enter the generator name and address according to the instructions in section IV.D.

[6] Former Waste Description
If there is a change in physical state, waste name, PIN, TDG class, quantity in storage, quantity produced, handling code, or generation code, enter all details for the waste that has changed. If there is no change, leave blank.

Note that if the management site alone changes for all or part of the waste, the details of the waste for which the management site has changed, are listed both under Former Waste Description and under Present Waste Description. This is necessary to show that it is a currently registered waste that is going to a different management site, rather than a new waste going to a different management site.

[7], [8], [9], [10], [11], [12], [13], [14], [15] Present Waste Description
Enter all details for any waste that is new or has changed according to the instructions for the corresponding headings in section IV.D. If no details for a particular waste have changed, (including management site) leave blank.

[16] General Business Type
Enter the general business type according to the instructions in section IV.D.

[17] Source of Waste
Enter the source of any wastes that have changed according to the instructions in section IV.D.

[18(a)] Former Generation Site
If there is a change in generation site address, enter the address as previously submitted. If there is no change, leave blank.

[18(b)] Present Generation Site
Enter the present generation site address according to the instructions in section IV.D.

[19] Company Name of Management Site Operator
Enter the legal name of the company managing the waste if there is a change from that previously submitted. Use a separate form if there is more than one management company or site.

[20(a)] Former Management Site Address
If there is a change in management site address, enter the address as previously submitted. If there is no change leave blank.

[20(b)] Present Management Site Address
Enter the present management site address according to the instructions in section IV.D.

[21] Certification
Certify the report and return to the Regional Environmental Protection Manager.IV.D

H. Access to Information

Statistics and similar non-confidential data are normally made available to anyone upon request.

Figure 5: GENERATOR REGISTRATION UPDATE FORM

LOGO Province of British Columbia

Ministry of Environment, Lands and Parks

Generator Registration Update
Form 18
Under the authority of the
Special Waste Regulation
Schedule 5, Section 43

The form replaces/renews/updates the following special waste information reported on the previous Generator Registration Report:

DATED: (YY/MM/DD)	2	BY:	3	for BCG#	1

SECTION 1. GENERATOR IDENTIFICATION

Company Name	4				
Mailing Address	5				
	PO Box or Street	City	Prov	Country	Postal Code

SECTION 2 SPECIAL WASTE DESCRIPTION

FORMER	Waste Identification			Quantity				
Physical State	Name of Waste	PIN	TDG Class	Now in Storage	Produced/ 30-day Period	Units L/KG	Handling Code	Generation Code
a) 6	6	6	6	6	6	6	6	6
b)								
c)								
d)								
e)								

PRESENT	Waste Identification			Quantity				
Physical State	Name of Waste	PIN	TDG Class	Now in Storage	Produced/ 30-day Period	Units L/KG	Handling Code	Generation Code
a) 7	8	9	10	11	12	13	14	15
b)								
c)								
d)								
e)								

SECTION 3 BUSINESS GENERATING SPECIAL WASTE

3a	General Business Type		16			
3b	Source of Special Waste		17			
3c	Generation Site	FORMER	18a			
			Address	City	Province	Postal Code
		PRESENT	18b			
			Address	City	Province	Postal Code
3d	Management Company Name		19			
	Management Site	FORMER	20a			
			Address	City	Province	Postal Code
		PRESENT	20b			
			Address	City	Province	Postal Code

SECTION 4 CERTIFICATION

I CERTIFY THAT THE INFORMATION PROVIDED ON THIS FORM IS CORRECT AND COMPLETE.

	21		( ) -
PRINT NAME	SIGNATURE	DATE (YY/MM/DD)	TELEPHONE NUMBER

FOR MINISTRY USE ONLY

REGIONS

LATITUDE: LONGITUDE:

SUPPLEMENTARY REPORT

ARCHIVE REPORT

SIC CODE

BCG#

ENVIL/P 8012 (04/92)

ORCS

V CONTAINERS FOR SPECIAL WASTE

Containers are used in the storage and transportation of special waste. The Transportation of Dangerous Goods (TDG) Act defines a container as "an article of transport equipment ... that is strong enough to be suitable for repeated use and is designed to facilitate the transportation of goods by one or more means of transport without intermediate reloading..."

A. General Requirements

Section 50 of the Special Waste Regulation specifies general requirements for containers. The Regulation requires the use of sound containers which are compatible with their contents. Materials are considered to be compatible, if under normal conditions of storage or transport: release of special waste does not occur; reactions resulting in emission of heat, gas, toxic or corrosive substances do not take place; and the effectiveness of the packaging is not reduced. The intent is to ensure that special waste is contained or secured during storage or transportation, and that no leakage or escape occurs. This includes situations where special waste is stored or transported, other than in containers as defined by the TDG Regulations (e.g. transformer carcasses).

Although the TDG Regulations currently do not have many requirements for containers it should be clear that the requirements of those regulations also apply. Note also that section 17.1 of the Special Waste Regulation specifies special requirements for containers used to store PCB wastes, as discussed in Section X of this guide.

The placement of a special waste in a container is prohibited if it is incompatible with another waste, the container itself, a packing material, or any other substance in the container. Similarly, the placement of special waste in an unwashed container which previously held an incompatible material is prohibited.

The Regulation requires that containers of special waste must be kept closed at "all material times during storage or transport" which means that they should only be opened when necessary to fill or to empty the container.

Most important of all, the Regulation prohibits the use of a container which has residues of special waste, for storing food, feed or any product which can become part of the human food chain.

B. Labpacks

Labpacks are a special kind of container used to hold any number of smaller containers. The Regulation is quite specific about how the smaller containers are to be packed within the labpack. The labpack must be an open-topped, metal container with a tight fitting lid and gasket, and must be lined with a 4 mil plastic bag.

Any small container placed inside a labpack, must have a label with the correct shipping name to identify the contents. Liquid special wastes in such containers must be wrapped in a 4 mil clear plastic bag. The void spaces in the labpack must be filled with inert absorbent packing material such as vermiculite to act as a cushioning agent and to soak up any leakage of liquids. An itemized list of all of the small containers in the labpack and their sizes must be retained for inspection while the labpack is in storage. This list of the contents of each labpack must be attached to the manifest during transport and sent to the Ministry by the consignee/receiver with the appropriate copy of the manifest.

C. Other Precautions

In addition to the above requirements, certain general safety precautions are recommended when dealing with special wastes in containers. Special waste containers may be re-used for other special waste shipments or disposed of at a permitted disposal facility such as a municipal landfill provided they no longer contain enough waste to qualify as a special waste or they have been properly decontaminated with a suitable solvent as specified in Table 13 (page 84). Proper protective clothing should always be worn when handling special wastes. Pouring material from one container to another increases the chance of spills and exposure to hazardous chemicals. It should not be attempted unless it is absolutely necessary such as when a container is leaking and cannot be properly repacked in a salvage drum.

V CONTAINERS FOR SPECIAL WASTE

Good hygiene procedures should be observed to avoid ingestion, absorption, and contact with special wastes. Individuals should refrain from smoking, eating or drinking when handling special wastes and should carry out routine personal washing and cleanup afterwards.

VI TRANSPORTING SPECIAL WASTE

Section 5 of the Waste Management Act describes legal responsibilities for generator/ consignors, carriers and receiver/consignees involved in transporting more than prescribed quantities of special wastes. These responsibilities include: use of consignor identification numbers; use of the waste manifest system; requirements for containers; and licences to transport special wastes for owners of road vehicles.

Note that in this section of the guide which deals with transportation, the term "consignor" means the person (used in the legal sense, which includes partnerships and companies) who is shipping special waste, and who was in previous sections referred to as a generator, or a person storing special waste.

The following sections bring together the requirements of the Special Waste Regulation for the safe transportation of special waste.

A. Consignor Identification Number (S. 44)

Section 44 of the Special Waste Regulation prohibits any person from offering for transport, a quantity of special waste greater than the registration quantity for the type of waste concerned, without: first obtaining a "Consignor Identification Number" (BCG No.), and where a consignor identification number is required, writing it in the space labelled "Provincial ID No." in Part A of every manifest used to ship special waste.

Consignor identification numbers are issued as part of the generator registration process, and so any person who has enough special waste to require a consignor identification number for transportation, also has enough waste to require registration as a generator. Registration quantities are discussed in section IV.A of this guide. In cases where a manifest is required, but the consignor does not require registration, enter "N/A" in the space for Provincial ID No.

The consignor identification number is issued to the person or company responsible for the special waste. Normally only one consignor identification number is issued to each generator. In cases where a company has a number of decentralized operations, consignor identification numbers are issued to the office which is responsible for the shipments. If the head office takes responsibility for all shipments, only one number is issued. If local offices take responsibility for their own shipments, separate numbers are issued to each local office.

B. Transport Licences (S. 45)

To provide additional safety, those who transport special waste by road (licences are not issued for other modes of transportation) are required in most situations, to be licensed by the Ministry. The situations where a licence is not required, are: when the quantity of waste is too small, or the transport distance is too short to require a manifest (see section VI.D.1); where the transport is solely on a property controlled by the person storing or generating the special waste; or if the waste is transported by the person who generated it, and the quantity of special waste is smaller than the registration quantity for the type of waste concerned (see Table 4, page 21).

A transport licence is issued by the Director, Industrial Waste and Hazardous Contaminants Branch, to the person or party responsible for the transportation function. In most circumstances it is issued to a transport company rather than employee drivers.

To obtain a "Licence to Transport Special Waste":

- complete the necessary application form which may be obtained from any Environmental Protection Program office (See Appendix A for office locations; a copy of the licence application is shown in Appendix C),
- send two copies of the completed application form to the Director, Industrial Waste and Hazardous Contaminants Branch (formerly Waste Management Branch) in Victoria, and
- provide additional information as required by the director.

When making a decision on a licence application, the director may require more information to be supplied. The director may also place conditions on the licence to limit certain aspects of operation, or refuse a transport licence for certain categories of wastes, if he suspects the carrier does not have the necessary knowledge, experience or equipment for safe transportation of those waste types.

The director may cancel or suspend a Licence to Transport Special Waste belonging to any person who contravenes the Waste Management Act or regulations. Before a transport licence is suspended or cancelled, the licence holder may ask to make representations to the director, or the director may hold a hearing on the matter. A licence is also void, if the circumstances under which the special waste is transported, differ significantly from the information provided in the application.

A copy of the licence must be carried in each vehicle used to transport special wastes.

C. Notification (TDG Regulations)

Section 4.20.1 of the Transportation of Dangerous Goods (TDG) Regulations, requires that notification of any transborder special waste shipments be given to Transport Canada, with a copy to Environment Canada. The notification must be filed at least 60 days before the date of shipment, providing all relevant details to the receiving jurisdiction. For shipments into Canada, this notification is given by completing the "Notification" form shown in Appendix C, and mailing the appropriate copies of the completed form to the designated offices as instructed on the reverse side of the form.

Notification is also required at least 30 days before any shipments of PCBs are made between provinces in Canada. The same form is used for both international shipments into Canada and interprovincial PCB shipments. At the time of updating this guide, the Environmental Protection Agency in the United States did not have a specified notification form for waste shipments into that country. However, they are currently accepting notifications completed on the Canadian notification form. Copies of the notification form may be obtained from any office of the Environmental Protection Program or from the offices of the Transport of Dangerous Goods Directorate of Transport Canada or Environment Canada (see Appendix A for locations).

D. The Manifest System

Section 5 of the Waste Management Act requires a manifest for the transportation of special waste, and places the onus equally on the consignor, carrier and receiver to use the manifest system.

The manifest is a key part of the computerized record keeping system used to check that all wastes leaving a consignor's property are received safely at the intended destination. This is often referred to as "a cradle-to-grave" tracking system.

The Special Waste Regulation requires the use of the manifest prescribed by the TDG Regulations. All of the information necessary to track a special waste shipment is recorded on a six copy, colour-coded form. A copy of the manifest is shown in Figure 6. The instructions for completing and distributing copies of the manifest are those prescribed by the TDG Regulations. Blank manifest forms may be obtained from Regional Environmental Protection Program offices shown in Appendix A.

1. When to Use the Manifest

In general, transport of special waste in quantities of 5 kg or more for solids, or 5 L or more for liquids, requires a manifest; any quantity of gases in a container having a liquid capacity greater than 5 L, also require a manifest.

Exceptions to the above general rule are: transport solely within the boundaries of property owned, leased or controlled by the person who produces or stores the special waste, provided the distance between the shipping and receiving sites is less than 100 km; transport on a public road for a distance less than 1 km; transport directly from a home or farm by a home owner or farmer, to a facility operated by the Crown, a municipality or an agent of these organizations; waste oil or paint in quantities less than 205 L, and; waste batteries in quantities less than 1 000 kg.

2. Responsibilities

The responsibility for completing and filing the manifest is divided between the consignor, the carrier and the receiver. The Waste Management Act prohibits a carrier or receiver from accepting a special waste shipment unless it is accompanied by a valid manifest document.

INSTRUCTIONS ON REVERSE

PRINT CLEARLY OR TYPE

PRESS HARD

MANIFEST-MANIFESTE

THIS MANIFEST CONFORMS TO ALL FEDERAL AND PROVINCIAL TRANSPORT AND ENVIRONMENTAL LEGISLATION REQUIRING MANIFESTING

CE MANIFESTE EST CONFORME AUX LÉGISLATIONS FÉDÉRALE ET PROVINCIALE SUR L'ENVIRONNEMENT ET LE TRANSPORT, REQUÉRANT UN MANIFESTE

Manifest Reference No
N° de référence du manifeste

A CONSIGNOR (GENERATOR) EXPEDITEUR (PRODUCTEUR)

Provincial ID No N° d'id provincial 1

Company Name Nom de l'entreprise 2

Mailing Address Adresse postale City Ville 3 Prov Postal Code Code postal

Shipping site Address Origine de l'expédition 4

City Ville Prov Postal Code Code postal

Intended Consignee Destinataire prévu 5 Provincial ID No N° d'id provincial 6

Address Adresse City Ville 7 Prov Postal Code Code postal

Receiving Site Address Destination de l'expédition 8

City Ville Prov Postal Code Code postal

B CARRIER TRANSPORTEUR

Provincial ID No N° d'id provincial 27

Company Name Nom de l'entreprise 28

Address Adresse 29

City Ville Prov Postal Code Code postal

Registration No N° d'immatriculation Prov 30

Vehicle Véhicule

Trailer/Rail Car No 1 - 1er remorque wagon

Trailer/Rail Car No 2 - 2e remorque wagon

Point of Entry Point d'entrée 31 Point of Exit Point de sortie 31

Carrier Certification I declare that I have received wastes as offered by the consignor in Part A for delivery to the intended consignee and that the information contained in Part B is complete and correct
Déclaration du transporteur J'atteste avoir reçu les déchets offerts par l'expéditeur dans la partie A en vue de leur livraison au destinataire choisi et que les renseignements inscrits à la partie B sont exacts et complets

Yr An Mon Mois Day Jour 32 Name of authorized person (print) Nom de l'agent autorisé (caractères d'imprimerie) 33

Signature 34 Tel No (Area Code) No de tél (incl rég) 35

Manifest Reference No s of Other Manifest(s) used
N°s de références des autres manifestes utilisés 36

C CONSIGNEE (RECEIVER) DESTINATAIRE (RÉCEPTIONNAIRE)

Provincial ID No N° d'id provincial 37

Consignee information same as in Part A
L'information à fournir par le destinataire est la même qu'en A ☐ 38

IF NOT COMPLETE SHADED AREA – SINON REMPLIR L'ESPACE OMBRAGÉ

Company Name Nom de l'entreprise 39

Address Adresse 40

City Ville Prov Postal Code Code postal

Receiving Site Address Destination de l'expédition 41

City Ville 42 Prov Postal Code Code postal

Date Received Date de réception Yr An Mon Mois Day Jour 43 Time Heure 44 ☐ AM ☐ PM

Physical State État physique	Shipping Name of Waste Appellation réglementaire du déchet	Waste Identification Identification du déchet: N° Provincial No (Québec Ontario only) (Québec Ontario seul)	TDGA/PIN LTMD/NIP	Quantity Shipped Quantité expédiée	Units L or/ou kg Unités	Classification	Packaging Group Groupe d'emballage	Packaging Contaments: No N°**	Code/int ext	Quantity Received Quantité reçu	Units L or/ou kg Unités	Identify Any Shipment Discrepancy Problems Attach Addendum if Necessary Indiquer toute différence relative à l'expédition Annexer une feuille au besoin	Handling Code Code de manutention	Decontamination Décontamination: Packaging Contaments Yes Oui	No Non	Vehicle Véhicule Yes Oui	No Non
9	10	11	12	13	14	15	16	17	18	45	46	47	48	49		50	

Special Handling/Emergency Instructions
Manutention spéciale/Instructions d'urgence 19 Attached Ci-jointes ☐ Below Ci-dessous ☐

Circulation No - Quebec only
N° de circulation - Réservée au Québec

If Handling Code "Other" (Specify) 51
Si code de manutention "divers" spécifier

If waste to be transferred specify intended consignee
Si les déchets doivent être transférés préciser le nom du destinataire 52 Provincial ID No N° d'id provincial 53

Address Adresse 54 City Ville Prov

Date Shipped Date d'expédition Yr An Mon Mois Day Jour 20 Time Heure 21 ☐ AM ☐ PM

Scheduled Arrival Date/Date d'arrivée prévue Yr An Mon Mois Day Jour 22

Consignor Certification I declare that the information contained in Part A is correct and complete
Déclaration de l'expéditeur Je déclare que tous les renseignements à la partie A sont véridiques et complets 23

Consignee Certification I declare that the information contained in Part C is correct and complete
Déclaration du destinataire Je déclare que tous les renseignements à la partie C sont véridiques et complets

Name of authorized Person (print)
Nom de l'agent autorisé (caractères d'imprimerie) 24

Signature 25

Tel No (Area Code) No de tél (incl rég) 26

Name of authorized Person (print) Nom de l'agent autorisé (caractères d'imprimerie) 55

Signature 56

Tel No (Area Code) No de tél (incl rég) 57

Figure 6: MANIFEST FORM

VI TRANSPORTING SPECIAL WASTE

a) Consignor (Generator)

A person who owns or is responsible for a special waste and who wishes to transport that waste when a manifest is required, must:

- have and use his consignor identification number, if the waste quantity also exceeds the registration quantity for the type of waste concerned,
- complete Part A of the manifest according to the instructions of the TDG Regulations,
- ensure that the person transporting the special waste has a British Columbia Licence to Transport Special Waste unless exempted by section 45 of the Special Waste Regulation (see section VI.B of this guide),
- ensure that the place to which the waste is transported is appropriately authorized by a storage or disposal permit, or other form of authorization,
- ensure that the carrier completes Part B of the manifest and immediately returns copies 1 and 2,
- forward copy 1 of the manifest to the Environmental Protection Division in Victoria within 2 working days of the day the special waste was given to the carrier,
- retain copy 2 of the manifest as a record for 2 years together with copy 6 when it is returned to him by the consignee, and
- make the retained manifests available for inspection for 2 years.

b) Carrier

Any person who is responsible for transporting special waste must:

- have a Licence to Transport Special Waste in British Columbia unless exempted by section 45 of the Special Waste Regulation (see section VI.B of this guide),
- complete Part B of the manifest,
- return copies 1 and 2 of the manifest to the consignor/generator after completing Part B,
- carry the remaining manifest forms with the special waste shipment and give them to the consignee/receiver with the special waste shipment,
- retain copy 4 of the manifest returned to him by the consignee, as a record for 2 years after the shipment has been completed, and
- make the retained manifests available for inspection for 2 years.

c) Receiver/Consignee

Any person who receives special waste must:

- be authorized to receive special wastes by a permit, order, approval, regulation or waste management plan,
- complete Part C of the manifest received with the special waste shipment,
- forward copy 3 of the completed manifest to the Environmental Protection Division, Victoria within 2 working days of the day the shipment was received,
- return copy 4 of the completed manifest to the carrier,
- forward copy 6 to the consignor/generator,
- retain copy 5 as a record for 2 years, and
- make the retained manifests available for inspection for 2 years.

Note that in all cases except where special waste is received for "temporary storage" only, the consignee must also comply with the waste information requirements for all special waste facilities—see Section VIII of this guide or section 5 of the Special Waste Regulation.

E. Completing the Manifest

The manifest is a six sheet carbon copy (or NCR) form intended to contain all details relevant to a shipment of special waste. The form should be completed either by hand with a ball-point pen, or using a typewriter set to a hard keystroke, so that a good impression is made through to the sixth copy.

VI TRANSPORTING SPECIAL WASTE

The reverse side of the manifest provides instructions on how to complete the manifest and how to distribute the copies of the form. The following sections give more detailed explanations and are referenced by number to the corresponding sections in Figure 6. Refer also to Figure 7 which shows the distribution of the various manifest copies.

Further assistance in completing the manifest may be obtained by referring to the "User's Guide for the Hazardous Waste Manifest" produced by Environment Canada.

Part A - Consignor (Generator) Instructions (Refer to Figure 6)

[1] Provincial ID No. (Consignor)
Consignor identification numbers (BCG No's.) are issued by the Environmental Protection Program as part of the special waste registration process. This number is unique to the consignor of the waste and is used to minimize errors in the computerized waste tracking system. This number is issued to the person, company or division of a company that is responsible for the special waste.

Enter this number on each manifest used for consigning special waste. Out-of-province consignors, should enter their own identification number if one is issued by their home jurisdiction. Consignors who are not required to have an identification number (e.g. schools generating or storing less than the registration quantity of special waste in a 30-day period), should enter "N/A".

[2] Company Name
Enter the name of the special waste consignor/ generator. In the case of a partnership or proprietorship, this is the name of the principal(s). For companies, it is their registered company name. The name must correspond to the name used for registration as a generator, and for which the consignor identification number was issued.

The consignor is the person who offers a consignment of special waste for shipment and who is responsible for care and control of the special waste prior to shipment. Normally this is the person managing the facility from which the special waste is sent. Monetary ownership is not necessarily a factor in determining the consignor. A nominal sale of a waste prior to shipment is considered the first step in the transportation of a special waste. Hence, the vendor in this situation is still the consignor.

[3] Mailing Address
Enter the business mailing address of the consignor/generator. Individuals without businesses, enter their home mailing address. Ensure that the postal code is correct.

[4] Shipping Site Address
Enter the physical site address, not a post office box or rural route number. Repeat the shipping site address if it is the same as the mailing address. For rural locations, the site address may be given as a distance from a known location along a named highway or road. If there is no postal code associated with the shipping site, leave the space for this blank.

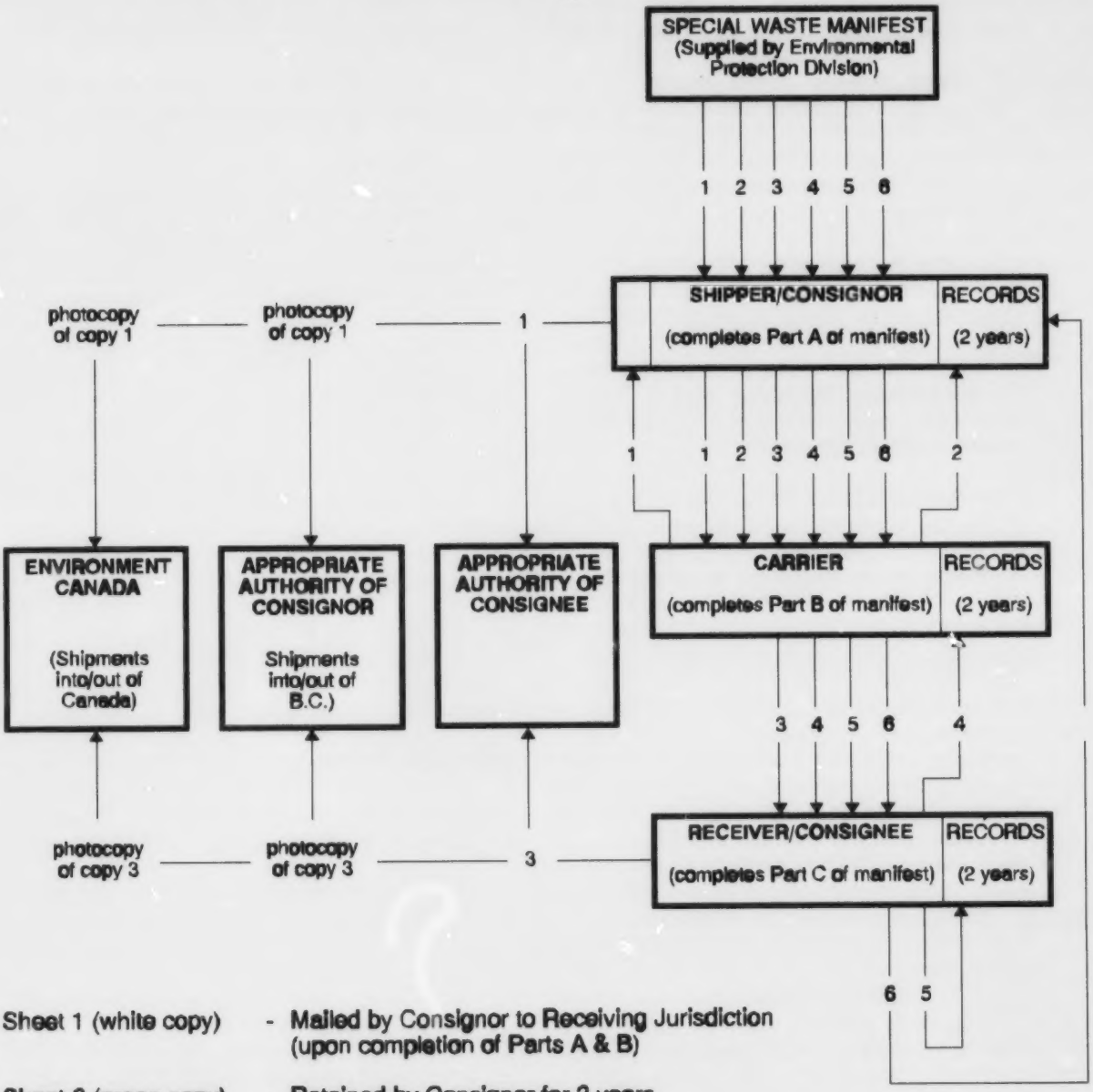
[5] Intended Consignee
Enter the name of the party that is to receive the special waste shipment. This must be done by the consignor. In the case of application of waste oil to land, enter the name of the owner or lessee of the land as the consignee.

[6] Provincial ID No. (Consignee)
Enter the permit number of the consignee/receiver in the space provided. The consignor is responsible for obtaining this number from the consignee. In British Columbia all special waste management facilities except certain recycle and on-site treatment facilities are required to have some form of authorization under the Waste Management Act by January 1, 1990. Where this authorization is in the form of a permit or an approval, a number is issued to the facility, and this number is entered as the Provincial ID No.

[7] Address of Intended Consignee
Enter the business mailing address of the intended consignee/receiver.

[8] Receiving Site Address
Enter the physical location of the receiving site. Do not give the mailing address. For rural locations the receiving site address may be given as a distance from a known location along a named route. In the case of application of waste oil to land (not permitted after October 1, 1992), identify the land to which the oil is applied as the receiving site

Figure 7: DISTRIBUTION OF THE MANIFEST



Sheet 1 (white copy) - Mailed by Consignor to Receiving Jurisdiction (upon completion of Parts A & B)

Sheet 2 (green copy) - Retained by Consignor for 2 years (upon completion of Parts A & B)

Sheet 3 (yellow copy) - Mailed by Consignee to Appropriate Authorities (upon completion of Parts A, B & C)

Sheet 4 (pink copy) - Retained by Carrier for 2 years

Sheet 5 (blue copy) - Retained by Consignee for 2 years

Sheet 6 (gold copy) - Mailed by Consignee to Consignor

address. The postal code space may be left blank if there is no postal code associated with the site.

[9] Physical State
Enter the physical state of the waste as solid, liquid or gas. If necessary, use the free liquid test described in Part 3 of Schedule 4 of the Special Waste Regulation to distinguish between solid and liquid wastes.

[10] Shipping Name
Enter the shipping name of any special waste as obtained from the listings in Schedule II of the TDG Regulations. For more details on TDG shipping names, please refer to Appendix D of this guide. For special wastes not regulated by the TDG Regulations, enter the waste name as determined in section III.F of this guide.

[11] Provincial No.
This space is used by some provinces to identify wastes according to an independent waste numbering system. For waste being transported within or into British Columbia this space may be left blank.

[12] TDG PIN
Enter the product identification number (PIN) for special wastes classified under the TDG Regulations. For wastes except "leachable toxic wastes", this number is found in Column II of the lists in Schedule II; for leachable toxic waste the PIN is always NA9500. This number is a cross-check to minimize errors in entering special waste names. Enter "N/A" for those special wastes not classified under the TDG Regulations (e.g. uncontaminated waste oil having a flash point greater than 61°C).

[13] Quantity Shipped and [14] Units
Enter the quantity of special waste being shipped in metric units. Indicate the units used as either kilograms (kg) or litres (L). Do not enter fractional values—use decimal numbers if necessary.

[15] Classification
For TDG classified wastes, enter the primary classification followed in parentheses by any applicable subsidiary classifications. Note that dilution with non-hazardous materials, or combinations with other hazardous materials can change the classifications as found in Column III of the lists in Schedule II of the TDG Regulations—see Appendix D or Part III of the TDG Regulations for explanation of primary and subsidiary classifications, and for use of the Table of Precedence (Table 19, page 117).

Enter "N/A" for those special wastes not classified under the TDG Regulations.

[16] Packing Group
Enter the packing group where applicable for TDG classified wastes. The packing group is a Roman numeral (i.e. I, II, or III) assigned to indicate a level of hazard for some classes of dangerous goods and special waste. Not all classes have packing groups. Packing groups are determined according to the criteria found in Part III of the TDG Regulations. The lowest roman numeral is the packing group for a combination of hazardous materials that exceeds the criteria for more than one packing group. For example, for a "poisonous solid, corrosive, n.o.s." which exceeds the inhalation toxicity criteria for packing group II, and the
corrosiveness criteria for packing group I, the packing group is I.

Enter "N/A" for those special wastes not classified under the TDG Regulations.

[17] Packaging No. and [18] Packaging Codes
Enter the number of individual packages used to ship the special waste in the column headed "No." This helps the receiver to check that containers were not added or lost en route. Enter the codes for the type of packaging used in the shipment in the column headed "Codes."

Use one of the following packaging codes:

- 01 = drum
- 02 = tank
- 03 = bulk
- 04 = carton
- 05 = bag
- 06 = roll-off (container or chassis)
- 07 = other

[19] Special Handling/Emergency Instructions
List or attach any instructions which may help the carrier or emergency response personnel in case of a spill or other accident. Mark the appropriate box in the top part of the space to indicate whether the instructions are "attached" on a separate sheet, or listed in the space provided. Such instructions typically include information on: whom to a contact in an emergency; how to handle the material or container; materials that should not come in contact

with the special waste; or, safety equipment required by response personnel.

20 Date Shipped
Enter the shipping date numerically in the year-month-day format (e.g. 92-01-15 refers to January 15, 1992).

21 Time
Record the exact time the shipment leaves the consignor's possession and mark the appropriate small box to indicate whether the time is A.M. or P.M.

22 Scheduled Arrival Date
Indicate the expected date of arrival of the shipment at the receiving site. Again, record the date in year-month-day format.

23 Consignor Certification
This statement is a declaration by the consignor that "the information contained in Part A is correct and complete." At this point in the completion of the manifest check to ensure that all of the information is correct.

24 Name of Authorized Person
Print or type the name of the consignor, or a person authorized to act on behalf of the consignor, in the space provided. This person must be accountable for the consignor's responsibilities. The consignor's authority cannot be delegated to anyone who is not responsible for a shipment.

25 Signature
The person authorized by the consignor must sign the manifest. This is to check against fraudulent use of the manifest system.

26 Telephone No.
Enter the full telephone number of the authorized person, including area code. This is required to provide a means of quick access to information about the special waste in times of an emergency or for clarification of data.

36 Reference No. of Other Manifests
Indicate the numbers of other manifests associated with the shipment, if more than one manifest is required to describe a special waste shipment. If space does not permit the complete list of manifest reference numbers, attach a separate list and enter "see attached list" in this space.

The consignor's duties on completion of the manifest are to:

- give the manifest to the carrier for completion of Part B, after completing Part A,
- give the carrier any other documents required for the shipment,
- take back copies 1 and 2 of the manifest after the carrier has completed Part B,
- retain copy 2 of the completed manifest for a period of 2 years, together with copy 6 when it is returned to him by the consignee,
- mail copies of the manifest as follows:

<u>Shipments within British Columbia</u>

- send copy 1 of the manifest to:

  Environmental Protection Division
  BC Environment
  777 Broughton Street
  Victoria, British Columbia
  V8V 1X5.

<u>Shipments to other provinces in Canada</u>

- send copy 1 of the manifest to the B.C. Environmental Protection Division, and
- send a photocopy of copy 1 of the manifest to the receiving jurisdiction (see reverse side of the manifest for addresses).

<u>International shipments from British Columbia</u>

- send copy 1 of the manifest to the receiving jurisdiction,
- send photocopies of copy 1 of the manifest to both the B.C. Environmental Protection Division and to Environment Canada, and
- after shipment is completed, send photocopies of copy 3 of the manifest with Parts A, B and C completed to both the B.C. Environmental Protection Division and Environment Canada (see addresses on the reverse side of the manifest).

Part B - Carrier Instructions (Refer to Figure 6)

27 Provincial ID No. (Carrier)
Except as noted in section VI.B, any person in British Columbia who carries a special waste must have a Licence to Transport Special Waste.

Enter the licence number in the space marked Provincial ID No. in Part B of the manifest. See section VI.B for information on obtaining a licence to transport special waste.

28 Company Name
Enter the name of the special waste carrier as it appears on the transport licence. A transport licence is not required for shipments by the generator who transports her own special waste in quantities less than the quantity specified for the waste for generator registration (see Table 3 on page 19). In these cases enter name of the owner or the name of her company.

29 Carrier's Address
Enter the business mailing address of the carrier. Ensure that the postal code is correct.

30 Vehicle Identification
Identify each vehicle involved in a special waste shipment by a number such as the licence plate number for road vehicles. Where a licence plate number is used, enter a two letter abbreviation in the column provided, to identify the issuing province. For other means of transportation, registration numbers or similar unique numbers are acceptable.

31 Point of Entry/Point of Exit
Indicate the border crossing point for international and interprovincial shipments.

32 Date
Enter the date that the carrier takes charge of the waste shipment. In most cases this date is the shipping date indicated by the consignor in item 20 above.

33 Name of Authorized Person
Type or print the name of the person authorized to act for the carrier. In most cases this is the driver or other person responsible for the shipment while it is en route.

34 Signature
The person authorized by the carrier must sign the manifest. This signature serves to verify that the wastes have been accepted by the carrier and that the shipment matches the description provided by the consignor.

35 Telephone No.
Enter the full telephone number of the carrier, including area code. This is used in case of emergency or at other times when information needs to be obtained quickly from the carrier.

The carrier's duties on completion of Part B of the manifest are to:

- return copies 1 and 2 of the manifest to the consignor,
- carry copies 3 to 6 of the manifest with the consignment, with one copy located as follows:

  Trucks

  - in the cab within the reach of the driver, in a pocket on the driver's door or on the driver's seat if the driver is not with the vehicle,

  Trailers in parking areas (no tractor unit attached)

  - with the person in charge of the parking area,

  Ships and ferries

  - with the master or the person attending the ship if it is not under way,

  Railcars

  - with the train crew if it is en route,
  - with the yardmaster if it is in a railway yard,
  - with the foreman of a repair shop or railroad repair crew if repairs are being done,
  - with the train dispatcher or his designate, or

Cases not covered above

- in a waterproof receptacle attached to the transport unit,

- give a copy of the manifest and any additional documents to any person who takes over control of the consignment,

- record on the manifest in the case of consignments by rail, the unit number of the rail car carrying the special waste,

- give the manifest and any additional documents to the consignee upon delivery of the consignment,

- retain copy 4 of the completed manifest returned to him by the consignee as a record, for a period of 2 years, and

- make any retained manifest copy available for inspection.

Part C - Consignee (Receiver) Instructions (Refer to Figure 6)

36 Reference No. of Other Manifests
If a special waste shipment involves more than one manifest, the receiver must check this space on the manifest to ensure that all copies have been received. This is especially critical when the shipment involves:

- more than one carrier,

- large shipments with more wastes than can be described on one manifest, or

- the transfer of consignments to a second shipment.

37 Provincial ID No. (Consignee)
In British Columbia all special waste management facilities except certain recycle and on-site treatment facilities are required to have some form of authorization under the Waste Management Act by January 1, 1990. Where this authorization is in the form of a permit or an approval, a number is issued to the facility, and this number is entered as the Provincial ID No.

38 Consignee Information - Same as in Part A
If the receiver's name, address, postal code, receiving site address and postal code are identical to the information supplied by the consignor in Part A, mark the box in this space and proceed to the date received in item 43.

If the information is different in any significant way, complete the shaded areas of Part C (see items 39 to 42 below).

39 Company Name
Enter the receiver's name if it has not been given by the consignor in Part A of the manifest. For companies this is the registered company name.

40 Address
Enter the business mailing address of the receiver. Ensure that the correct postal code is provided.

41 Receiving Site Address
Provide the physical location of the receiving site. This address should correspond to the address given by the consignor in Part A. For remote locations, distances and highway or road names are acceptable.

42 City, Province, Postal Code
Provide the city, province and correct postal code of the receiving site where possible.

43 Date Received
Enter the date on which the shipment is accepted by the receiver. Use year-month-day format (e.g. 92-01-15 refers to January 15, 1992).

44 Time
Record the time of acceptance of the shipment and mark A.M. or P.M. as appropriate.

45 Quantity Received
Determine by measurement and record in metric units, the quantity of each waste in the shipment for which the manifest indicates the quantity to be more than 100 kg or 100 L.

46 Units
Indicate the units of the quantity received as either kilograms (kg) or litres (L). The units should be consistent with those used by the consignor in Part A.

VI TRANSPORTING SPECIAL WASTE

47 Shipment Discrepancies
Identify any discrepancies in the type of wastes, or the quantity delivered, compared to the information on the manifest.

If the waste is not as described on the manifest, or if there is a discrepancy greater than ±5% in the amount of waste received, immediately telephone the director or a manager, and wait for further instructions.

Report any problems with the containers, the manifest or any other aspect of the shipment to the director or a manager. In some cases it may be necessary for the receiver to contact the consignor for more information in order to account for possible discrepancies: note any such contacts. If a shipment is refused, note the reason for refusal in the space provided on the manifest. Attach an addendum sheet to copy 3 of the manifest if more space is required to explain discrepancies.

48 Handling Code
Indicate the proposed manner for handling the waste at the receiving site, using one of the handling codes found on the reverse of the manifest. These codes are:

- 01 = storage
- 02 = thermal treatment
- 03 = chemical treatment
- 04 = physical treatment
- 05 = biological treatment
- 06 = landfill
- 07 = recycled
- 08 = other (specify)

If Code 08 is entered, enter the specific type of handling method (such as onward shipment to another consignee) in the space below (item 51). Where a series of management methods are proposed, enter the code for the final handling method expected to be used.

49 Packaging Decontamination
Indicate whether the container and interior packaging used in a special waste shipment are to be decontaminated at the receiver's site.

50 Vehicle Decontamination
Indicate whether the vehicle used to transport the special waste shipment is to be decontaminated.

51 If Handling Code "Other" (Specify)
Specify the expected handling method for the waste if 08 was entered as the handling code for item 48.

52 Transfers
If the shipment is being forwarded to another facility, indicate the next intended receiver of the waste. This situation arises most often where waste is collected by a broker before being sent to a final treatment or disposal facility.

53 Provincial ID No.
Enter the permit or approval number of the next receiver if the shipment is to be sent on to another receiver.

54 Address
Enter the address of the next receiver, if applicable.

55 Authorized Person
Type or print the name of the person authorized by the receiver, to take responsibility for the waste and for completion of Part C of the manifest. This authority cannot be transferred to a person who is not responsible for the waste or the contents of Part C of the manifest.

56 Signature
The authorized person indicated above must sign the manifest as the receiver to certify that the information contained in Part C is correct and complete.

57 Telephone No.
Enter the full telephone number of the receiver, including area code.

The consignee's duties on completion of Part C of the manifest are to:

<u>Shipments within British Columbia</u>

- mail copy 3 and any additional documents within 2 working days to:

  Environmental Protection Division
  BC Environment
  777 Broughton Street
  Victoria, B.C.
  V8V 1X5.

Interprovincial or international shipments

- mail a photocopy of copy 3 to the jurisdictions indicated on the reverse of the manifest (in most cases these are the two jurisdictions which regulate the consignor and the receiver),
- return copy 4 to the carrier for his records,
- retain copy 5, and make it available for inspection for up to 2 years, and
- mail copy 6 to the consignor.

F. Multiple Consignors

Section 47 of the Special Waste Regulation makes provision for more than one consignor to use the same manifest, where the same type of special waste is transported in a bulk load by a single carrier. This provision is primarily for the benefit of recycling operations such as oil collectors, solvent reclaimers or battery recyclers where a large number of pickups are made before a bulk load is complete.

The Regulation allows the carrier to complete Part A of the manifest for the consignors, by writing the word "multiple" for the company name and the shipping site address. In addition, the carrier must complete and keep with the manifest, a "Multiple Consignors" manifest supplement to record all of the required information for each consignor. The carrier may use Form 3 of Schedule 5 of the Regulation shown in Figure 8, or he may use his own form provided it contains the same information.

Part B of the manifest is completed as described in section VI.E, except that the carrier retains copy 1 until the shipment is completed, and enters the total from the multiple consignors form in the "Quantity Shipped" column on the manifest.

Upon completion of the shipment, the procedure is the same as described in section VI.E, except that the carrier is required to:

- attach copy A of the multiple consignors form to copy 1 of the manifest, and mail them to the appropriate authority in the jurisdiction where the consignor is located,
- attach copy B of the multiple consignors form to copy 2 of the manifest (consignor's copy), and retain them for inspection for a period of 2 years, together with copy 4 of the manifest (carrier's copy) returned to him by the consignee, and
- attach copy C of the multiple consignors form to copy 5 of the manifest, and deliver them to the consignee.

G. Multiple Carriers

Section 47.1 of the Special Waste Regulation requires a consignor to use a single manifest together with a "Multiple Carriers" manifest supplement where a special waste shipment is transported by two or more carriers from a single consignor to a single receiving site. The carrier may use Form 5 of Schedule 5 of the Regulation shown in Figure 9, or he may use his own form provided it contains the same information. This provision is primarily to streamline the paperwork for inter-modal transport.

The procedure for the consignor is the same as described in section VI.E, except that the consignor is required to:

- enter the names (and if applicable, the licence numbers) of the carriers on the multiple carrier form,
- enter the words "see attached form" on Part B of the manifest for the names of the carriers,
- attach all copies of the multiple carrier form to copies 3, 4, 5, and 6 of the manifest, and give them to the first carrier, and
- retain copy D of the multiple carrier form for 2 years, together with copy 6 of the manifest, when they are returned by the consignee.

Each carrier is required to:

- complete and sign the multiple carriers form when accepting the shipment from the consignor or the previous carrier,
- keep the multiple carriers form with the manifest,
- give the multiple carriers form and the manifest to the next carrier or the consignee as applicable, and

Figure 8: MULTIPLE CONSIGNOR FORM

LOGO Province of British Columbia

Ministry of Environment, Lands and Parks

Manifest Supplem
Multiple Consign

Form
Under the authority of t
Special Waste Regulati
Schedule 5, Section

COLLECTION POINT INFORMATION:

Waste Name	TDG Class	TDG/PIN	Reference Manifest Number	

Name	Address	City	Postal Code	Telephone	Consignor ID #	Consignor's Signature	Quantity Kg/L	Cumulative Total, Kg/L
1.								
2.								
3								
.4								
.5								
.6								
7.								
8.								
9.								
10.								
							TOTAL:	

CARRIER INFORMATION:

Carrier's Company Name:		Vehicle Licence Plate No.:	
Driver's Name:		Driver's Signature:	
DATE: (YY/MM/DD)			

INSTRUCTIONS: The Carrier Shall

(a) complete this form;
(b) keep this form with the manifest;

(c) when the shipment has been completed:
. Attach Copy A to Copy 1 of Manifest and mail to the appropriate authority in the jurisdiction where consignor is located,
. Attach Copy B to Copy 2 of Manifest and retain,
. Attach Copy C to Copy 5 of Manifest and deliver to consignee.

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Figure 9: MULTIPLE CARRIER FORM

LOGO Province of British Columbia

Ministry of Environment, Lands and Parks

Manifest Supplement

Multiple Carriers
Form 5
Under the authority of the
Special Waste Regulation
Schedule 5, Section 47.1

CONDITIONS: This form can only be used as an attachment to a SPECIAL WASTE MANIFEST under the following conditions:

(a) There is only one Consignor (Generator) and only one Consignee (Receiver) for the shipment described on the referenced manifest.
(b) There are no additions to or deletions of waste from the consignment after the shipment leaves the consignor's site.
(c) This form must be attached to the Reference Manifest and must be in the vehicle when the shipment is being transported.

CONSIGNOR					REFERENCE MANIFEST NO			
Carrier Name	Carrier LT#	Vehicle Registration (Lic. Plate No.)	Province or State	Date Carried		Shipping Locations		Carriers Signature
				Start (YY/MM DD)	Finish (YY/MM DD)	From	To	

I certify the above shipments have been made in compliance with the Special Waste Regulation.

Consignor Contact Name (Please Print)	Signature	Telephone Number	FAX Number	Date (YY/MM/DD)

INSTRUCTIONS: When the shipment has been completed the Consignee (Receiver):

. Attaches Copy A to Copy 3 of Manifest and mails to the appropriate authority in the jurisdiction where consignee is located.
. Attaches copies of Copy B to copies of Copy 4 of Manifest and returns to each Carrier.
. Attaches Copy C to Copy 5 of Manifest and retains for 2 years.
. Attaches Copy D to Copy 6 of Manifest and mails to Consignor.

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- retain a photocopy of copy B of the multiple carrier form for 2 years, together with a photocopy of copy 4 of the manifest returned to him by the consignee.

Upon completion of the shipment, the procedure is the same as described in section VI.E, except that the consignee is required to:

- attach copies of the multiple carrier form to the manifest as specified on the multiple carrier form, and

- retain copy C of the multiple carrier form for 2 years, together with copy 5 of the manifest.

H. Multiple Wastes

Section 47.2 of the Special Waste Regulation makes a provision for a consignor to use a single manifest together with a "Multiple Wastes" manifest supplement where there is not sufficient space on the manifest to record the details for all the special wastes in the shipment. The consignor may use Form 6 of Schedule 5 of the Regulation shown in Figure 10, or he may use his own form provided it contains the same information.

The procedure for the consignor is the same as described in section VI.E, except that the consignor is required to:

- enter the words "see attached form" on Part A of the manifest for the description of the waste,

- attach all copies of the multiple wastes form to copies 3, 4, 5, and 6 of the manifest, and give them to the first carrier, and

- retain copy D of the multiple wastes form for 2 years, together with copy 6 of the manifest, when they are returned by the consignee.

Each carrier is required to:

- keep the multiple wastes form with the manifest, and

- retain copy B of the multiple wastes form for 2 years, together with copy 4 of the manifest returned to him by the consignee.

Upon completion of the shipment, the procedure is the same as described in section VI.E, except that the consignee is required to:

- attach copies of the multiple wastes form to the manifest as specified on the multiple wastes form, and

- retain copy C of the multiple carrier form for 2 years, together with copy 5 of the manifest.

I. Rejected Shipments

Occasionally a receiver may refuse to accept a special waste shipment delivered to his facility. Sometimes, the contractual agreement between the shipper/consignor and receiver/consignee specifies the procedures to correct this situation.

However, if a receiver/consignee has a shipment arrive without a manifest, with an incomplete or incorrectly completed manifest, or if the shipment arrives in a hazardous condition, further action must be taken. If no manifest is provided, or if the shipment poses a hazard, the nearest Regional Environmental Protection Program office should be notified as soon as possible. See Appendix A for a list of addresses and telephone numbers of these offices.

If there is an omission or a discrepancy between the waste shipment and the information provided on the manifest by the shipper/consignor, the receiver/consignee should promptly contact the shipper/consignor to resolve these issues before the shipment is accepted and unloaded. If the shipper/consignor cannot be reached, the nearest Regional Environmental Protection Program office should be consulted. On the other hand, if there is an omission or discrepancy with the information in the carrier's part of the form, the receiver/consignee should resolve these items with the carrier before accepting the load.

If, after consultation with the shipper/consignor and the Environmental Protection Program, it is determined that the shipment must be returned, the receiver/consignee should inform the Environmental Protection Program by telephone of this decision and should note on his section of the manifest that the shipment is being returned. The remaining manifest copies should be distributed in the usual manner.

Figure 10: MULTIPLE WASTES FORM

LOGO

Province of British Columbia

Ministry of Environment, Lands and Parks

Manifest Supplement
Multiple Different Wastes

Form 6
Under the authority of the
Special Waste Regulation
Schedule 5, Section 47.2

CONDITIONS:

This form can only be used as an attachment to a SPECIAL WASTE MANIFEST under the following conditions:

(a) There is only one consignor (Generator) and only one Consignee (Receiver) for all of the waste listed on the referenced manifest and on this form.
(b) There are no additions or deletions of waste from the consignment after the shipment leaves the consignor's site.
(c) The form must be attached to the reference manifest and must be in the vehicle when the shipment is being transported.

CONSIGNOR:		REFERENCE MANIFEST NUMBER:	

Physical State	Shipping Name of Waste	TDGA/PIN	Quantity Shipped	Units L/KG	Class	Packing Group	Packaging		Quantity Received	Units L/KG	Shipment Discrepancy*	Handling Code	Decontamination			
													Packaging/ Container		Vehicle	
							No.	Codes					YES	NO	YES	NO

I certify the above shipments have been made in compliance with the Special Waste Regulation.

Consignor Contact Name (Please Print)	Signature	Telephone Number	FAX Number	Date (YY/MM/DD)

INSTRUCTIONS: When the shipment has been completed the Consignee (Receiver):

. Attaches Copy A to Copy 3 of Manifest and mails to the appropriate authority in the jurisdiction where Consignee is located.
. Attaches Copy B to Copy 4 of Manifest and returns to Carrier.
. Attaches Copy C to Copy 5 of Manifest and retains for 2 years.
. Attaches Copy D to Copy 6 of Manifest and mails to Consignor.

*Identify any shipment discrepancy. Attach Addendum if necessary

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J. Labels and Placards

For most special wastes, the TDG Regulations require the consignor to provide labels on containers and placards for vehicles carrying special waste. Specifications for the size, colour and locations of each are given in Part V and Schedule V of the TDG Regulations. The designs of each are shown on the mini-posters at the back of this guide. Generally, each class of dangerous goods has a unique label and a corresponding equivalent placard. The label and placard to be used in any particular case depend on the classification of the special waste and whether the load contains other consignments of dangerous goods.

Labels must be placed on the outside of any container of special waste. If the container has a volume greater than 2 m^3, labels must be placed on at least two opposite sides. In addition to labels, containers of less than 454 L must also clearly display the shipping name, product identification number (PIN) and, for Class 3 wastes, the flash point of the special waste. In some cases where a waste has a primary and secondary classification, two labels may be required for each container to indicate dual classifications. Where small containers are inside larger containers such as labpacks or overpacks and the labelling on the inner container is not visible, the outer container also needs to be labelled.

Containers which have been emptied but not cleaned must continue to display the appropriate label for the waste previously held in the container. After a container has been cleaned or purged, the label must be removed.

Placards might be thought of as labels for vehicles or transport units. Apart from a few exceptions such as bulk or mixed loads, infectious waste and radioactive waste, the symbols for placards are identical to those for labels. Placards must be displayed on all four sides of a vehicle so that they are clearly visible and must be removed after the transport unit has been cleaned or purged. The product identification number is to be displayed on a vehicle carrying a bulk load of a special waste.

Mixed loads with different primary classifications must display the "DANGER" placard. An owner or lessee of a tank used to transport special waste must mark the tank on two opposite sides with his name and address and any serial numbers assigned to the tank.

If a tank used to transport special waste is found to be leaking, the person in charge of the tank must mark it on both sides near any serial or identification numbers with the words "leaking tank-do not load until repaired", and place a tag with these words on any manholes or valves used to fill the tank. He must also mark the tank with an "X" near the location of the leak if it is known.

K. Training

Under the TDG Regulations anyone who is handling or transporting special waste must either be trained to handle that waste or must be working under the direct supervision of a trained person. An employer is responsible for ensuring that his employees are trained to handle all special wastes which are encountered in the employee's normal duties. The employer must issue a Certificate of Training showing the date the employee received the initial training, the dates of any subsequent training and the aspects of handling special waste for which the employee was trained.

Further details on training related to the transportation of special waste may be found in Part IX of the TDG Regulations.

VII SPECIAL WASTE MANAGEMENT OPTIONS

The proper management of special wastes involves much more than simple treatment or disposal. There is a hierarchy of management options for dealing with wastes from source through to disposal.

The preferred option in this hierarchy is to prevent the waste from being produced in the first place. This is usually accomplished by changing a manufacturing process, using a less hazardous raw material or simply using production methods not associated with the generation of hazardous by-products. Often this is the safest and most economical method of dealing with special wastes.

If the production of a special waste cannot be prevented, the next option in the waste management hierarchy is to recycle the waste. Many manufacturers have found that there is profit in their waste streams. In some cases a waste from one manufacturer can be beneficially used in another industry. This is the basis of several waste exchange programs which bring together waste producers and waste users.

The Recycling Council of British Columbia has set up a waste exchange database for British Columbia, and publishes a quarterly newsletter. Various grades of membership are available for individuals and organizations. For further information contact:

Recycling Council of British Columbia
Suite 102, 1525 West 8th Avenue
Vancouver, B.C.
V6J 1T5

Telephone: (604) 731-7222

A related service is offered by the Provincial Recycling Hotline, operated on behalf of the Ministry of Environment, Lands and Parks. The hotline also maintains a database, and has information on various programs such as those for recycling batteries and tires. For further information contact:

Provincial Recycling Hotline

Telephone: (604) 732-9253, or
1 (800) 667-4321

On a broader scale, the Canadian Waste Material Exchange publishes a bi-monthly bulletin which lists wastes wanted or offered throughout Canada. For more information on this service, contact:

Canadian Waste Material Exchange
Ortech International
2395 Speakman Drive
Sheridan Park Research Community
Mississauga, Ontario
L5K 1B3

Telephone: (416) 822-4111 ext. 656
Facsimile: (416) 823-1446

Unfortunately, not all wastes can be eliminated, reduced, or recycled. The next option in the waste management hierarchy is to deal with wastes at the site of the generator. This eliminates the risk of transporting the special wastes. Simple treatment techniques such as neutralization of acids and alkalis, precipitation and settling to reduce waste volumes and some forms of oxidation may often be used on the site of the waste generator. Dilution is not considered treatment under the regulation. Table 5 lists various methods for the treatment of some common special wastes. However, note that any treatment system which involves a discharge or emission to the environment requires authorization under the Waste Management Act. In addition, note that authorization under the Waste Management Act is also required if any management option involves storing more special waste than the permit quantity (see Table 13, page 84) for a period of 14 days or longer, even if the waste is later completely removed (short-term storage). Figure 12 (page 85) summarizes the forms of authorization required for each special waste management technique. For additional information on obtaining authorizations, see Section XIX of this guide.

The final option for dealing with special wastes is to transport the waste to an off-site facility where a wider range of specialized management processes is available for treatment and disposal. For some wastes, an off-site facility is the only option which is safe and economical.

Later sections in this guide describe in more detail the requirements for the various types of special waste management facilities. At this point it is sufficient to say that preference is given in the regulations to those options at the top of the management hierarchy. Several factors were considered in developing the regulatory requirements for each management option. The

degree of exposure or risk to the public and the environment was a major consideration. Hence, the regulations give preference to on-site recycling facilities over off-site disposal facilities.

The degree of surveillance required to protect the environment is also important. This, in turn, depends on factors such as the quantity and composition of a waste and the time for which a management technique is used. A small quantity of mildly hazardous material stored for a short time, requires fewer precautions than a large amount of an extremely hazardous material which is stored permanently.

Table 5: EXAMPLES OF OPTIONS FOR MANAGEMENT OF SPECIAL WASTES

Special Waste Type	Waste Management Options
Acids and Alkalis	• recycling • neutralization
Asbestos	• solidification • containment during transport • landfill
Chromium	• recycling • chemical reduction to trivalent state • physical/chemical treatment • solidification and secure landfill
Cyanides	• recycling • chemical oxidation • physical/chemical treatment • solidification and secure landfill • high temperature incineration
Fluorides	• physical/chemical treatment • solidification and secure landfill
Heavy metals	• recycling • physical/chemical treatment • solidification and secure landfill
Hydrocarbon contaminated soils	• recycling • landfarming
Infectious materials	• biological treatment • thermal destruction • chemical disinfection
Oils	• recycling • physical/chemical treatment • biological treatment • incineration
Organics (halogenated)	• recycling • physical/chemical treatment • high temperature incineration
Organics (non-halogenated)	• recycling • biological treatment • physical/chemical treatment • incineration
Pesticides	• biological treatment • physical/chemical treatment • high temperature incineration
Sulphides	• physical/chemical treatment • chemical oxidation

VIII REQUIREMENTS FOR ALL SPECIAL WASTE FACILITIES

This section describes the requirements which must be met by all special waste facilities. These requirements include siting standards and all general safety and protective provisions. In addition, where an operation meets the definition of a specific type of special waste facility, Sections IX to XVI of this guide should be checked for further detailed requirements.

Each of these sections describe the requirements for a particular type of special waste facility. Requirements for recycle facilities are discussed in Section IX, requirements for short-term storage facilities in Section X, etc. If a facility meets the definition of more than one type of facility, the requirements for each type of individual facility apply. For example, a mobile incinerator is required to meet the requirements for all facilities (except the siting standards from which mobile facilities may be exempt), incinerators and mobile facilities.

Note that most special waste facilities also require to be operated in accordance with some form of authorization—see Figure 12 (page 85) for a summary of requirements.

A. Discussion of Definitions

In this section some of the more important legal definitions are discussed. Part 1 of the Waste Management Act and the Special Waste Regulation, and the Transportation of Dangerous Goods (TDG) Act and Regulations should be reviewed for those definitions not discussed below.

1. 200 Year Floodplain

Floodplain levels have been mapped for a number of the major watercourses in British Columbia. Maps based on information from the Special Projects Section of the Floodplain Management Branch may be obtained through Maps BC, (387-1441), 3rd Floor, 1802 Douglas Street, Victoria, B.C., V8V 1X4.

For those floodplains not currently mapped, Regional Water Managers may be able to supply additional information. In other cases it may be necessary to retain the services of a specialist consultant to determine the 200 year floodplain level.

The Regulation has been amended to specify protection of facilities to the 200 year flood level instead of the 100 year flood level. Facilities existing at the time of the amendment may continue to be protected to the 100 year flood level.

2. Approved

This term is used frequently in the Special Waste Regulation where requirements are set by the director or a manager for situations in which a site specific review or an on-site appraisal is required before the final terms or conditions of a requirement can be established. For something to be "approved" it must be in writing and it must be issued by a manager, the District Director of GVRD, the Director, Industrial Waste and Hazardous Contaminants Branch or by the Minister of Environment, Lands and Parks. An "approval" in this context can take the form of an order, a permit, an approval issued by a manager, a Waste Management Plan, a licence or simply a letter.

The terms "approved" and "approval", as used in the Special Waste Regulation, have a broader meaning than "an approval" under section 9 of the Waste Management Act. An approval under section 9 of the Act is only one possible form of approval under the Special Waste Regulation.

3. Buffer Zone

A buffer zone is an area of land which separates a facility from surrounding land. Normally a buffer zone is vacant land which is not developed during the operating life of the facility. Its principle purpose is to mitigate any negative aesthetic aspects arising from operation of a facility. A buffer zone does not have to be owned by the facility owner, but it should be under the facility owner's control.

4. Bulk Load

A bulk load is a shipment of special waste in a container, which is made up of consignments from more than one shipper. The waste may be carried in one or more containers, but all of the waste in each container must be of the same type.

5. Consignor, Carrier and Consignee

Under most circumstances it is not difficult to identify each of these parties for any waste shipment. The consignor is the person who has the waste and is responsible for it before it is shipped. The carrier is responsible for transporting the waste

to its intended destination. The consignee is the person to whom the waste is sent, and who in normal circumstances accepts the waste at the receiving site.

In cases where a broker or agent is used to facilitate the shipment, these definitions may not always be clear. This is especially true where the agent is contracted to transport, and also dispose of the waste. Note that the responsibility of any person involved in the shipment cannot be transferred to any other person by virtue of a contract. Therefore, although a carrier may write information on a manifest on behalf of a consignor, it is still the consignor's responsibility to ensure that the information is correct.

Ownership of a special waste is only one of the factors considered in determining a person's responsibility under the Regulation. The person who has "control and possession" of the waste is usually the first person to be held responsible for it. Federal authorities have interpreted the consignor to be the person in charge of the facility from which the waste is sent.

6. Dangerous Goods

The Special Waste Regulation definition of "dangerous goods" uses the definition given in the TDG Act. Except for disallowing the exemption from regulation applicable to dangerous goods handled on a single industrial site, it includes only those substances regulated by the TDG Regulations. In almost all cases, dangerous goods which are waste, and wastes which qualify as dangerous goods are special wastes under the Special Waste Regulation. See also Section III, and Appendix D of this guide.

7. Dioxin TEQ

There are a large number of related chlorinated compounds having either a dioxin or furan chemical structure. The toxicity of these compounds varies considerably. Dioxin TEQ (toxicity equivalent) is a single number used to compare substances containing different dioxins and furans. Toxicity equivalency factors (TEFs; given in Schedule 1 of the Special Waste Regulation) are used to express the amount of a particular dioxin or furan present in a substance, as an equivalent amount of the most toxic compound of this type. The dioxin TEQ of the substance is then the sum of these equivalent amounts. If any of the measured concentrations is below the detection limit, use one-half the value of the detection limit in calculation of TEQ.

8. Disposal

Disposal is any introduction of waste into the environment, by means intended to minimize the effect on the environment.

9. Facility

A facility can be any piece of equipment, process or constructed works which is used to handle or deal with a special waste. The most common types of facilities are listed in the definitions. This list does not necessarily contain all of the facility types that may be in use. Where a facility is not listed, the regulations still apply, including the requirements of sections 3 to 14 of the Special Waste Regulation and those in any permit, approval or plan.

While historical special waste contaminated sites are excluded from definition as facilities, this exclusion does not extend to any in-situ works or processes at such sites.

10. Historical Special Waste Contaminated Site

An historical special waste contaminated site is any land or groundwater which was contaminated with special waste on or before April 1, 1988, and to which no further special waste is added. Such sites are not considered to be special waste facilities.

11. Hydrocarbon Contaminated Soil

Hydrocarbon contaminated soil consists of a naturally occurring material such as soil or gravel, which is contaminated only with a petroleum product, including leaded compounds originating from leaded gasoline. Such materials are a subclass of waste oil or leachable toxic waste, and are eligible for special management provisions if the contaminant standards specified in Table 12 (page 81) are not exceeded.

12. Incinerator

An incinerator is the most common type of thermal treatment facility which uses a controlled flame to achieve combustion. Processes using

technologies such as pyrolysis or plasma arc are not incinerators, but are defined as thermal treatment systems. This distinction is important as there is a difference between the requirements for these types of facilities.

13. Indoor

For the purposes of the Special Waste Regulation an indoor facility is an above-ground structure used to protect an operation or a waste from the weather, but does not include shipping containers used for passive storage. Inflatable and portable structures could be considered indoor depending on the individual waste being managed at the facility.

14. In-Situ Management Facility

An in-situ management facility can only occur on a historical contaminated site. It applies to any works or technique used to reduce the impact of contamination on such sites, without substantial physical alteration of the site. Examples are slurry walls to control the flow of groundwater, or bioremediation to treat toxic contaminants.

15. Labpack

A labpack is a means of packaging together a number of smaller containers of special waste for storage or transport. A metal drum with a tight fitting gasketted lid, absorbent, and a plastic liner would be a suitable labpack in most cases. Each small inside container should be labelled to indicate the contents. Those containing liquids require to be wrapped in clear plastic. Only compatible wastes may be placed in the same labpack. A labpack outer container may not exceed 454 L.

16. Land Treatment

The most common forms of land treatment are "land farms" or "bio farms" which use natural or enhanced biological degradation to treat a waste. The facility must be designed firstly to contain the waste and secondly to maximize the desired biological activity. An area where waste is simply spread onto the ground without prior technical investigative study or other management action would not be an acceptable land treatment facility.

17. Leachable Toxic Waste

Leachable toxic wastes are defined by both the Special Waste Regulation and the TDG Regulations. Since there are some differences between the definitions, it is important to use the Special Waste Regulation definition for waste management purposes within British Columbia, and the TDG definition for all other purposes including transport in B.C.

In general, this term is used to describe those wastes which contain, or which when contacted with water at a pH of 5.0 release, hazardous components in amounts greater than those specified by the applicable regulation. At the present time there are thirty six compounds or groups of compounds which have to be checked in the Special Waste Regulation leachate test, and thirty which have to be checked in the TDG leachate test.

It is important to note that if there is no substantial amount of solid in a waste (less than 0.5% by weight) the levels specified by the Special Waste Regulation apply to the liquid alone.

18. Long Term Storage

The Special Waste Regulation recognizes that a secure landfill is not necessarily the only possibility for permanent holding (disposal) of a waste residue. This means that a waste facility operator has some flexibility in designing a final disposal option, and allows use of innovative alternatives to a conventional secure landfill for disposal of residues such as incinerator ash or solidified inorganic waste.

The concept of a long-term storage facility grew out of the idea of an above-ground secure landfill and evolved to include any type of above-ground structure designed to keep special waste from being released to the environment over a very long period of time. It is possible that such a structure could even be more secure than a traditional secure landfill since all of the waste would be readily available for inspection, recycling or removal if necessary.

The Special Waste Regulation does not specify the physical form of a long-term storage facility but minimum design requirements are set. In theory such facilities could be as simple as a

secure dedicated warehouse or as elaborate as a concrete mausoleum.

19. Manage

The term "manage" is intended to encompass any activity which involves special waste. It spans the full spectrum of activity from the point of initial waste generation to the final resting place of any residues.

20. Mobile Facility

Any facility which is designed to be transported from site to site is a mobile facility. Usually these are chemical or thermal treatment units mounted on trucks, trailers or rail cars. The regulation limits the number of hours of operation and the quantity of waste which may be treated at these facilities before they are no longer considered mobile.

21. Officer

An officer is defined in the Waste Management Act and means a person so designated by the director in writing, or by the Environment Management Act. A peace officer is also an officer for purposes of vehicle inspection.

On proof of identity, an officer has right of entry to any facility other than solely residential premises, for whatever investigation he deems appropriate.

22. Owner

The term owner includes the operator of a facility. In cases where there is a contractual arrangement between an owner and an operator the responsibilities of the owner may rest solely with the operator or with the owner depending on the terms of the agreement.

23. Passive Storage

The term passive storage encompasses only those activities which are directly related to and necessary for storage operations (i.e. placement, retrieval or inspection of special waste). It is intended to exclude any other activity such as sampling of wastes, transfer of waste between containers, or ongoing filling or packing of containers.

24. PCB

PCB refers to any chemical compound or a mixture of compounds described as chlorobiphenyls or polychlorinated biphenyls, and having the general molecular formula $C_{12}H_{10-n}Cl_n$, where n can be any value from 3 to 10.

25. PCB Equipment

Any manufactured item which contains or is contaminated with a PCB liquid or PCB solid is PCB equipment. While items of PCB equipment are often electrical components such as transformers, or capacitors, the definition includes other items such as contaminated drums and containers.

Note that an item of equipment need only be contaminated with liquid or solid containing more than 50 parts per million (ppm) by weight of PCB, for the whole item to be considered PCB equipment.

26. PCB Liquid

Any liquid containing more than 50 ppm by weight of PCB, is a PCB liquid.

27. PCB Solid

Any material or substance other than a liquid containing more than 50 ppm by weight of PCB, is a PCB solid. Absorbents or soils contaminated PCB are typical examples.

28. PCB Wastes

PCB liquids, PCB solids and PCB equipment are grouped together, and all except PCB equipment which is actually in service, are defined as PCB wastes.

Note that under a recent amendment to the Special Waste Regulation, any PCB equipment now becomes PCB waste as soon as it is removed from service, regardless of any intent to treat, recycle, or reuse the equipment.

29. Polycyclic Aromatic Hydrocarbon TEQ or PAH TEQ

The term "polycyclic aromatic hydrocarbon" (PAH) and the alternative term "polynuclear aromatic hydrocarbon" refers to a class of

compounds which are chemically described as having a structure of three or more fused benzene rings. The toxicity of these compounds varies considerably. PAH TEQ (toxicity equivalent) is a single number used to compare substances containing different PAHs. Toxicity equivalency factors (TEFs; given in Schedule 1.1 of the Special Waste Regulation) are used to express the amount of a particular PAH present in a substance, as an equivalent amount of benzo[a]pyrene. The PAH TEQ of the substance is then the sum of these equivalent amounts. If any of the PHA compounds is measured below the detection limit of the analytical method use one half the value of the detection limit in the calculations.

30. Principal Organic Hazardous Constituent (POHC)

Principal organic hazardous constituents are those compounds in a special waste which are selected for test purposes to prove the capabilities of a treatment process. This is especially applicable to incinerators and other thermal treatment systems, although POHCs may also be selected to test chemical or physical treatment processes. In all cases a manager or the director, decides which chemical components should be used in a test. In some cases he may specify a surrogate (substitute) compound to be used as an alternative if he considers a test to be too risky with the waste itself or if monitoring complexities make it necessary.

31. Product of Incomplete Combustion (PIC)

Under conditions of incomplete combustion, incinerators can emit chemical compounds in the exhaust which are harmful derivatives of the original waste. These derivatives are called products of incomplete combustion (PIC). In some cases PICs can be more harmful than the original material being burned. It is important to try to identify all predominant PICs when a thermal treatment facility is being tested on a new waste material.

32. Recharge Area

A recharge area is an area of land that supplies water to an aquifer. Where an aquifer is exposed or open to the surface, the recharge area is the entire area above it. If the aquifer is "confined" by an overlying layer of impervious soil or rock the recharge area can be a great distance from the area where a groundwater supply is actually used.

33. Recycle

In the Special Waste Regulation, recycle has a deliberately narrow definition. To meet this definition the special waste or waste residue must be "wholly utilized" in a process or repackaged and offered for retail sale to meet a realistic market demand: processes involving application to land, burning, or where the principal purpose is waste management are excluded. Examples are use in sewage treatment, of pickle liquor from metal finishing operations, and use of lime sludge from acetylene production in pulp mills.

Processes which produce a residue for disposal or which do not wholly utilize the material are actually treatment processes.

34. Short-Term Storage

Short-term storage means storage for a period greater than 14 days, after which time the waste is removed. Some form of authorization is required if the quantity of waste stored at any time during a 30-day period exceeds an applicable quantity as given in Table 15 (page 87). The Special Waste Regulation does not specify a maximum time period for which waste may be held in a short-term storage facility. The length of time a waste can be held in storage before treatment or disposal is determined by the permit or other form of authorization for the facility. The time limit will be set directly by a date or a time period indicated on the permit or by a limit on the total amount of waste which may be stored at the facility. The owner of a short-term storage facility must make provisions for the periodic and final disposal of all waste in storage, to avoid having to meet the requirements of a long-term storage facility.

Storage facilities in which the waste turn over period never exceeds 14 days are defined as temporary, rather than short-term storage facilities.

35. Special Waste

With the exception of: the substances listed in Table 1 (page 10); some diluted acids and bases, and some leachable toxic wastes, wastes qualifying as "dangerous goods" and regulated by the Transportation of Dangerous Goods (TDG) Act and Regulations, are defined as special wastes. In

addition, special waste includes the following substances specifically defined in the Special Waste Regulation: PCB wastes; wastes containing dioxin; waste oil; waste asbestos; waste pest control product containers and wastes containing pest control products; leachable toxic waste; waste containing tetrachloroethylene; and, waste containing polycyclic aromatic hydrocarbons. Where a waste meets the definition for more than one type of waste, the first listed definition which accurately describes the waste is applicable. See Section III of this guide for a detailed procedure to determine if a waste is a special waste.

36. Temporary Storage

Facilities at which only temporary storage of special waste takes place, are exempt from the provisions of the Waste Management Act requiring authorization for storage, and from the provisions of the Special Waste Regulation relating to storage of special waste. These exemptions do not include exemption from the requirement to register such facilities, or to keep the special waste appropriately contained.

The exemptions are intended primarily to benefit small generators who arrange for prompt removal of special waste from their sites, and to avoid unwieldy regulation of facilities such as transport depots where special wastes may be held for a short time.

37. Treatment

Treatment is the use of a process or operation to change any physical, chemical or biological characteristics of a waste so as to eliminate or reduce the volume or any hazardous properties. Some activities such as reclamation of solvents or used oil are not recycle facilities but, in fact are treatment facilities for the purposes of the Special Waste Regulation. Dilution is not a form of treatment under the Special Waste Regulation.

38. Waste Asbestos

Any waste containing 1% or more of friable asbestos is a special waste. The key phrase in this definition is "friable asbestos fibres or asbestos dust". Any asbestos bound within a solid matrix such as in a cement or in a hardboard is not a special waste.

39. Wastes Containing Dioxin

Wastes containing in excess of 100 parts per billion of chlorinated dioxins and furans, expressed as "dioxin TEQ" are defined as wastes containing dioxins. This definition captures wastes containing dioxins and furans, which are not captured by the TDG classification criteria for class 6.1 (toxic substances).

Since it is recognized that analysis for dioxins and furans is expensive, testing is not required where these compounds are not expected to be present, based on waste origin, chemical composition, or similar case histories.

40. Waste Containing Polycyclic Aromatic Hydrocarbon

Wastes containing in excess of 100 parts per million of polycyclic aromatic hydrocarbon expressed as "PAH TEQ" are defined as wastes containing polycyclic aromatic hydrocarbon. This definition captures wastes containing PAH which are not captured by the TDG classification criteria for class 6.1 (toxic substances).

41. Waste Containing Tetrachloroethylene

Wastes containing in excess of 500 parts per million of tetrachloroethylene are defined as wastes containing tetrachloroethylene. This definition captures wastes containing tetrachloroethylene which are not captured by the TDG classification criteria for class 6.1 (toxic substances) or waste type 2.

42. Waste Oil

The definition of waste oil is restricted to refined mineral oils or non-hazardous materials containing more than 3% by weight of such oils, which have become unsuitable for their original purpose owing to impurities or loss of original properties. Included are oils which are dangerous goods in class 3, in class 9.2 on the basis of benzene, toluene, xylene, ethylbenzene or lead content or in class 9.3 on account of leachable toxic compounds.

The definition does not include: crude oil; any oil generated at a wellsite; substances classified as dangerous goods for any reason other than those listed previously; or substances which also contain

dioxins or furans in quantities greater than 100 parts per billion expressed as dioxin TEQ.

Some waste oil may qualify as hydrocarbon contaminated soil, and thus also be eligible for the additional, less restrictive management options for this type of waste.

43. Waste Pile

A waste pile is a facility where solid special waste is stored or treated. This definition does not include wastes in containers and therefore would normally apply to the storage of bulk wastes. The waste may be stored outdoors if the weather does not have a detrimental effect on it.

B. General Provisions and Exemptions

Apart from the exemptions noted below, and unless otherwise authorized by the Minister of Environment, Lands, and Parks, the Special Waste Regulation has applied to all special waste facilities since January 1, 1990. The general provisions and exemptions are briefly described below, with the applicable section references given in parentheses.

1. Quantity (S. 2(6), 17.1(1), 46(1))

The Special Waste Regulation and the requirement for authorization under the Waste Management Act do not apply to discrete amounts of waste less than 5 L or 5 kg, except where the waste contains PCBs. Where the waste is generated over a period of time, the quantity exemption is counted over 30 days. Thus a special waste having a 5 kg exemption limit, is regulated if it is generated every day at a rate of 167 grams per day (5 kg/30 days). In addition, accumulations of waste may not exceed the applicable quantity limit for the waste at any time.

Where PCB wastes are stored, the full requirements of the Special Waste Regulation apply to: 1.0 kg or more of pure PCB; 100 L or more of PCB liquid (any liquid containing more than 50 ppm of PCB); or 100 kg or more of PCB solids (any material other than a liquid, contaminated with more than 50 ppm of PCB). These quantities are determined as the aggregate of all quantities at a single location owned or controlled by the same person and include PCB equipment.

Where PCB wastes are transported, solids or liquids containing more than 500 g of PCB contaminated material (greater than 50 ppm by weight of PCB), require a manifest.

2. Siting Standards for on-site Facilities Existing before April 1, 1988 (S. 2(4))

An on-site facility is an operation where special waste is managed on the same property where it was produced. Unless ordered otherwise by the minister, the siting standards in the Special Waste Regulation do not apply to any on-site special waste facility which was in operation on April 1, 1988.

3. Common Facility Definitions (S. 2(2))

The owner of a special waste facility must comply with all of the requirements for each type of facility that describes his facility. For instance, a mobile PCB chemical treatment unit has to meet the requirements for mobile facilities and for treatment facilities as well as the general requirements for all facilities found in sections 3 to 14 of the Regulation.

4. Temporary Storage (S. 2(15))

Unless ordered otherwise by a manager, facilities where only temporary storage of special waste occurs, are exempt from all requirements of the Special Waste Regulation except the requirement for registration, and also exempt from the requirement under the Waste Management Act, to have some form of authorization. This exemption is intended to streamline paperwork arising from facilities such as transfer stations, and to reflect the lower risk associated with storage of waste in appropriate transport packaging, for limited periods of time.

5. Facilities without Discharges, or Discharging to Authorized Works (S. 2(1))

The requirement for authorization under section 3.2(a) of the Waste Management Act does not apply to facilities that have no discharge, or that discharge to authorized works, provided that any stored special waste is less than the quantities given in Table 15 (page 87). For the common example of a treatment facility discharging directly to a permitted sewer system, this means that the facility does not require to have a permit. Note however that in this example, all other requirements

of the Special Waste Regulation, such as siting standards, operational requirements and performance standards, still apply.

6. On-Site Volume Reduction (S. 2(7))

An on-site treatment facility is exempt from section 3.2(a) of the Waste Management Act and from the siting, operating and performance requirements of the Special Waste Regulation for a treatment facility, if it is used only to reduce the volume of a special waste. This provision is intended to encourage waste generators to physically minimize, such as by bailing or compacting, the volume of waste sent off-site for treatment. Note however that the qualification criteria for this exemption are very restrictive. For example, compaction of oil filters to separate oil from the filter carcasses does not qualify.

7. On-Site and Off-Site Recycling (S. 2(8))

An on-site recycle facility is exempt from section 3.2(a) of the Act and the siting, operating and performance requirements of the Regulation, if the special waste being processed is normally a component of the raw material feed or the products of the industrial process. Thus, for example, the owner of a lead smelter qualifies for the exemptions, if he recycles his own waste batteries by mixing the scrap plates with the ore concentrate. By contrast, a forest company cannot claim the on-site recycle exemption for disposal in a pulp mill power boiler, of a wood waste contaminated with pentachloro-phenol. In the first case the lead is a component of the feed and the product from the smelter while in the second example the pentachloro-phenol is not part of the raw materials for a boiler, or the products of a pulp mill.

An-off site recycle facility qualifies for the same exemptions as an on-site facility, provided the amount of special waste being processed there is less than 5% of all incoming raw materials (not just the materials of the same type as the special waste). In the example above, the lead smelter still qualifies for the exemption from the regulations if it keeps the amount of waste coming from off-site sources, below 5% of input production capacity. These provisions are intended to encourage recycling.

8. Mining Wastes (S. 2(9))

If waste rock or tailings from a mine happens to be a special waste, certain sections of the Regulation do not apply, if no other special wastes are involved. Care should be taken however to see that other requirements such as a closure plan are not overlooked. If a company proposes to dispose of any other special waste in their tailings pond a specific approval such as a permit or other form of authorization is required.

In cases where waste rock and tailings are known to be special wastes, the Environmental Protection Program will determine appropriate measures for environmental protection as part of the permit evaluation process.

9. Historical Special Waste Contaminated Sites (S. 2(12))

Special provisions are made in the Special Waste Regulation to reflect the realities of historical special waste contaminated sites. Exemptions from some siting standards and general operational requirements are granted, provided that: facilities for the management of the special waste are on the historical site, or on land approved by the director; any requirements of the director are complied with; and in the case of in-situ facilities, approval is obtained prior to construction and operation.

Note however that some general requirements (such as those for gathering appropriate waste information and for having a closure plan) as well as all performance standards for specific types of facilities are still applicable.

10. Substitutions (S. 2(10))

Except for cases exclusively reserved for the Minister or the director has broad authority in individual cases to substitute any requirement he sees fit for any requirement in the Special Waste Regulation. Such substitutions, including revocation of an exemption granted elsewhere under the Regulation, may be made where the director considers it necessary to protect the public or the environment, or where he feels the intent of the Regulation is met.

11. Management of Specific Special Wastes (S. 39.1 to 42.1)

The requirement for authorization under section 3.2(a) of the Waste Management Act and Parts 2, 3 and 4 of the Special Waste Regulation do not apply to facilities managing specific special wastes, provided the wastes are managed according to the provisions of the applicable section (waste asbestos—section 40; waste oil—section 41; hydrocarbon contaminated soil—section 41.1; pest control product wastes and containers—section 42; and waste paint—section 42.1).

C. Siting Standards (S. 3)

The siting requirements discussed in this section apply to most facilities, whether a facility is used for storage, treatment or any other management option. Exceptions are found in sections 2(4), 2(7), 2(8), 2(9), 2(10), 2(12), 2(15), 22, 39.1, 40, 41, 41.1, 42, 42.1, 48(2), 48(3), 51 and 52 which concern respectively: existing on-site facilities; on-site volume reduction facilities; some recycle facilities; facilities where mine tailings or waste rock are managed; requirements substituted by the director; facilities for managing special waste from historical contaminated sites; temporary storage sites; management of specific special wastes; management of waste asbestos; management of waste oil; management of waste pest control products and containers; management of hydrocarbon contaminated soil; recycling of waste paint; mobile facilities; small quantity storage; response to spilled or abandoned dangerous goods; and, applications for changes to regulatory requirements.

1. 200 Year Floodplain

The intent of this requirement is to prohibit the operation of any facility in an area where it can be affected by a major flood unless the facility is protected to prevent escape of the waste. If any difficulty is encountered in determining the 200 year flood level at a particular site, the nearest office of the Water Management Branch should be consulted for assistance. The owner of any operation built within a 200 year floodplain must show to the satisfaction of the director or a manager that the facility is "designed, constructed, operated and maintained to prevent washout".

To maintain consistency with existing floodplain maps, the Regulation has been amended to specify protection of facilities to the 200 year flood level instead of the 100 year flood level. Facilities existing at the time of the amendment may continue to be protected to the 100 year flood level.

2. Holocene Faults

Holocene faults are geological faults which have been active during the last 11 000 years. It is recognized that geological faults are not always obvious or known, especially in areas where there has been little geological exploration. Information on faults may usually be obtained through the offices of the Ministry of Energy, Mines and Petroleum Resources.

3. Tsunamis

Tsunamis or tidal waves are usually the result of earthquakes at sea and therefore only affect coastal waters. Low tidal areas, and land adjacent to long narrow fiords are especially prone to tsunamis. Facilities operating in such locations require protection by dikes or similar works to prevent washout.

4. Slope Failure

Areas close to steep or unstable slopes are obviously poor locations for any special waste facility. There must be a minimum of 100 metres between any unstable slopes and a facility. A qualified geotechnical expert should be consulted if there any questions about slope stability.

5. Protected Wildlife Areas

Special waste facilities may not be located in any of a number of protected wildlife areas such as designated parks, wildlife preserves or sanctuaries. The nearest office of the Ministry of Environment, Lands and Parks, or the Wildlife Branch in Victoria should be contacted to identify boundaries of such areas.

D. Operational Requirements (S. 4 to 14)

With exceptions similar to those listed in the previous section, the requirements discussed in this section apply to all facilities regardless of size or type.

VIII REQUIREMENTS FOR ALL SPECIAL WASTE FACILITIES

1. Plans (S. 4)

Plans for any new facility or modifications to existing works must be approved by the director or a manager prior to beginning construction or installation. The intent is to ensure that the proposed works are capable of managing the special waste safely. In most circumstances the approval is given when a permit is issued or amended. In cases where minor modifications are proposed to existing facilities the owner of the facility should contact the nearest office of the Environmental Protection Program to establish whether the changes necessitate formal approval.

2. Waste Information (S. 5)

Section 5 of the Regulation requires that any facility managing special waste must have full and complete information on the hazards and properties of the waste. The quantity of waste received must be determined for shipments indicated on the manifest to be greater than 100 kilograms or litres. The director or a manager must be contacted before accepting a shipment, if: there is a discrepancy in quantity received greater than ±5% compared to the manifest; the waste does not match the description on the manifest; or where there is no manifest with a shipment.

3. Waste Record (S. 6)

Records of special waste received or stored at a facility must be kept on hand for inspection by an officer. Where waste is shipped from a facility, all records pertaining to that waste must be kept for at least 2 years. These records must show clearly the amounts and location of wastes on hand at the facility and the disposition of wastes no longer at the facility. The record keeping system may be in the form of paper files or electronic computer data.

4. Weather Protection (S. 7)

The level of weather protection provided at any facility must be matched to the type of waste and the severity of the weather at the site. In general, this means that buildings, covers, heaters, etc. are required for most special waste facilities. Weather protection may be unnecessary in facilities such as lagoons and land farms where the waste is not affected by the weather or where the management facility itself provides adequate protection.

5. Access Security (S. 8)

Special waste facilities must be designed to prevent unauthorized access to the facility by people and animals. The degree of protection required depends on the types of waste and the opportunities for access. The Regulation specifies a means of controlling access together with a barrier or a 24-hour surveillance system, and signs warning of restricted access. In addition, all important valves, electrical controls and similar devices must be protected if they are in areas subject to vandalism.

Where a special waste facility is located within the controlled access area of an industrial operation such as a refinery, separate access control to the facility is not required, provided the level of control to the whole property is consistent with the requirements of the Regulation. In such cases, it may be necessary for the property owner to designate those personnel who are authorized to access the special waste facility.

6. Fire Protection (S. 9)

The Regulation specifies various minimum provisions for a facility managing any ignitable or reactive special waste. Such provisions include: protection of stored waste from sources of ignition, by use of separation distances or two-hour rated fire barriers, electrical grounding and suitable warning signs; provision of a 24-hour fire alarm system with heat and smoke sensors, capable of shutting down any forced air ventilation systems, and summoning 24-hour external emergency response; provision of a fire suppression system or equipment; use of good house-keeping practices, non-combustible building construction and indirect facility heating; and avoidance of reactions likely to cause explosions or other undesirable emissions. These provisions may be augmented by requirements of the provincial Fire Services Act or of municipal by-laws. The facility owner should ensure that such requirements are also met.

Some provisions are specified in general terms, because they depend on-site specific conditions. In such cases, good engineering practice should be used to establish the level of protection required. For example, electrical grounding is not required where flammable waste is stored in closed drums. As another example, the separation distance or barrier between flammables

and a source of ignition is determined in part by the type of potential ignition source.

7. Spill Protection (S. 10)

Facility owners are required to provide and maintain spill containment systems for any special waste. Such systems must be approved by a manager. The level of protection should match the degree of hazard posed by the waste, but at minimum should contain the waste on-site. This requirement is not restricted to liquid wastes alone. Facilities which manage fine powders, dusts and gases also require spill containment systems.

Spill protection systems must be checked at least monthly for any leaks or malfunctions that could allow waste to escape or cause a health hazard: if any free liquid waste is stored at a facility, weekly inspections or a 24 hour spill alarm are required. System inspections require to be recorded. Where any irregularities are found, these must be immediately reported to the director or a manager, and any corrective action noted in the inspection record.

Note also that an irregularity resulting in a release of waste to the environment may be subject to the provisions of the Spill Reporting Regulation, and require reporting to the Provincial Emergency Program—see Section XXII of this guide for further details.

8. Contingency Plan (S. 11)

A contingency plan is a document which provides all relevant information necessary to make an initial sustained response to any type of spill or emergency at a facility. The plan should contain: the names of the designated Emergency Response Coordinator and his alternate; detailed procedures for facility evacuation and shutdown; procedures for notification of emergency response teams and affected parties; abatement measures, such as identification of choke points for containing run-off fire water; inventories of emergency equipment both on and off site; identification of independent contractors with emergency response capabilities (e.g. backhoe operators); and communication networks. The plan must be approved by a manager, and kept up to date. Testing is also required on a regular basis.

9. Emergency System Testing (S. 12)

A facility must have its various emergency systems tested or inspected at least once per year to ensure that all protective measures are working properly. Records of each test must be kept and if the facility manages more than 20 tonnes of waste per year the record of tests must be sent to the director or a manager within 90 days of the test. The intent of this regulation is to see that all equipment, plans and procedures designed to handle an emergency are able to provide an adequate level of protection. Any deficiencies identified during a test or inspection must be corrected as soon as possible.

10. Personnel Training (S. 13)

Every person who works at a special waste facility in an operational capacity must receive formal training in both the basic responsibilities of his position, and in a full array of emergency and safety procedures before commencing work. This training must cover duties and responsibilities, proper use of protective clothing and equipment, knowledge of emergency response procedures, communications and alarm systems, spill abatement procedures and equipment, shutdown procedures and a good working knowledge of the special wastes managed at the facility. The quality of training must be matched to the level of hazard associated with the wastes being managed at the facility.

All operational employees must receive an annual review of their initial training. This is to ensure that any new procedures, equipment or responsibilities are not overlooked in the day-to-day operation of the facility.

Records must be kept of each employee's training history. This includes a record of all operational staff, the level of training received and the date of the last training session.

11. Closure (S. 14)

Every special waste facility must have an approved closure plan. The plan must state how and when a facility will be closed, as well as describe the decontamination procedures to be used. The plan must also indicate the time needed to complete the closure and identify the types and amounts of waste residues which might be left after

closure. This last point is important information for anyone interested in future development of the site.

Amendments to a closure plan must be submitted to the director or a manager, whenever there are any changes in a facility's design, operation or intended closure date.

A facility owner must notify a manager or the director at least 90 days in advance that a facility is to be closed. The facility should then be closed in accordance with the approved closure plan. Anyone not closing a facility in a proper manner could be subject to additional abatement orders or penalties under the Waste Management Act.

IX RECYCLE FACILITY REQUIREMENTS

Recycle facilities have a relatively narrow interpretation under the Special Waste Regulation. Recycle means to wholly utilize a special waste or special waste residue in a process which is not principally intended for waste management, or to package or offer such material for retail sale, but specifically excludes application of materials to land or burning. To meet this definition the waste material must be completely used in the process or sold in its original form. Hence for example, a facility which distils solvent from a paint waste for future sale is not a recycle facility because the waste is not "wholly utilized" or promptly repackaged for sale. Such an operation is classed as a treatment facility. The key words in the definition of recycle are "to wholly utilize": there should be no residue left over after the material has been processed.

A smelter used to recover metals from plating wastes, and where the material is wholly utilized in the process, is an example of a recycle facility. Similarly, waste lime slurry used in a pulp mill is recycled if it is "wholly utilized". To qualify for the exemptions granted in section 2(8) of the Regulation, the materials in the waste or waste residue, must normally be part of the raw materials for the recycle facility, and in the case of an off-site facility, may not comprise more than 5% of all raw materials. In the pulp mill example, the raw materials used for calculating this percentage could include logs and water, as well as other materials used in the process.

The exclusion of burning or application to land from the definition of recycle, means that operations such as use of waste oil for firing a kiln or spreading waste organic phosphate on agricultural land are not recycling but rather treatment or disposal.

The operational requirements for a recycle facility are relatively simple. There must be an automatic means of stopping the process if there is an upset and the materials used in the process must be compatible with the special waste. If liquid wastes are being transferred, dripless hose connections must be used. A dripless hose connection is any type of connection that does not result in spillage or release of drips to the environment, rather than a specific mechanical configuration. Arrangements accomplishing this, such as couplings with internal valves (similar to some safety air hose couplings), use of purging before breaking a line, or catch-pans are all acceptable.

X SHORT-TERM STORAGE FACILITY REQUIREMENTS

Short- term storage means that a special waste is being kept in a safe place for a period of time greater than 14 days, prior to recycling, treatment, disposal or management in some other manner. If the quantity of waste stored in a 30-day period at any time exceeds an applicable quantity given in Table 15 (page 87), some form of authorization is required for the storage. The Special Waste Regulation does not specify a predetermined length of time after which a waste must be removed from storage. This time period is governed by the storage permit which may set a specific removal date or a maximum amount of waste permitted in storage at any given time. The definition of a short-term storage facility does not specify the use of a building although this is often necessary to meet the requirements of the Regulation.

Since most PCB wastes are managed in short-term storage facilities, the special requirements for these materials are discussed in this section of the guide.

Facilities in which the waste storage period (or residence time for treatment equipment such as tanks or oxidation ponds) never exceeds 14 days are defined as temporary, rather than short-term storage facilities.

A. Operational Requirements (S. 16)

Other than for PCB wastes, short-term storage facilities have simple operational requirements. The first requirement is that space be provided around tanks and containers for visual inspection. This normally rules out underground tanks unless they are placed inside a vault which allows the operator to check the tank and any associated piping for leaks.

A short-term storage facility for liquids must have an impervious containment system with sufficient capacity to hold <u>either</u> the larger of 110% of the largest volume of free liquid in any container <u>or</u> 25% of the total volume of free liquid in storage. "Impervious" is defined as having a permeability not greater than 1×10^{-7} cm/s when subjected to a head of 0.305 m of water.

Indoor facilities, other than those used for "passive storage", must be provided with forced ventilation so that 0.3 $m^3/min/m^2$ of air is exhausted at all times. Overflow protection must be put in place to minimize the chance of overfilling a tank and dripless hose connections (any type of connection that does not result in spillage or release of drips to the environment, such as couplings with internal valves, use of purging before breaking a line, or catch-pans) must be used whenever transferring wastes. All materials which come in contact with the waste must be compatible with the waste being stored. Finally, unless containment is provided to prevent release of special waste, transfer lines in a short-term storage facility must be provided with automatic shut off valves or similar devices to close off the flow of any special waste in the event of an emergency. Containment in this context includes measures such as double piping as well as conventional dikes.

B. Performance Standards (S. 17)

The performance standards for short-term storage simply require that any emissions or effluent from the facility must meet Ministry standards. For air emissions this means meeting approved levels set for the specific facility by the director or a manager, and for effluent discharges not exceeding the applicable set of standards in Schedule 1.2 of the Regulation (also found in Table 6, page 66). The standards applicable to effluent discharges depend on whether the discharge is direct to the environment (includes discharges to storm sewers) or into municipal or industrial effluent treatment works. Note that Schedule 1.2 specifies minimum standards, operators of municipal or industrial treatment works may specify more restrictive standards for discharges into their works.

C. Additional Requirements for PCB Wastes (S. 17.1)

The quantities of PCB wastes subject to regulation are smaller than those for other types of wastes. Where PCB wastes are stored, the full requirements of the Special Waste Regulation apply to: 1.0 kg or more of pure PCB; 100 L or more of PCB liquid (any liquid containing more than 50 ppm of PCB); or 100 kg or more of PCB solids (any material other than a liquid, contaminated with more than 50 ppm of PCB). These quantities are determined as the aggregate of all quantities at a single location owned or controlled by the same person and include equipment containing PCBs.

X SHORT TERM STORAGE FACILITY REQUIREMENTS

1. Packaging

Where drums less than 205 L are used for storage of PCB solids or liquids, the Regulation specifies the minimum gauge and type of closure for the drum, that painting is required to prevent rusting, and that stacking two high is permitted. To minimize the risks associated with repacking PCB liquids, the Regulation allows lighter gauge drums for wastes placed in storage before June 1, 1991. Note that containers other than drums are permitted, and these may be stacked two high if specifically designed for this. All containers or equipment containing PCBs require to be on pallets or skids, or otherwise provided with means to detect leaks.

2. Inventory Records

The Regulation requires that a current inventory of PCBs stored at a facility be kept together with a site map indicating storage locations, and a fire protection plan acceptable to the local assistant to the fire commissioner. Copies of the fire protection plan must be provided to the director or a manager, and the local assistant to the fire commissioner.

3. Labelling

Containers or equipment containing PCBs require Environment Canada labels or reasonable alternatives as follows:

Capacitors containing more than 0.5 kg of PCBs (other than those stored in containers before 28-02-89)

- serialized, black and white "CAUTION/ ATTENTION PCB" label measuring 76 mm by 76 mm;

Equipment containing PCBs in a concentration greater than 1% by weight

- serialized, black and white "ATTENTION PCB" label measuring 150 mm by 150 mm;

Equipment containing PCBs in a concentration greater than 50 ppm, but not greater than 1% by weight

- "ATTENTION contaminated with PCBs" label;

Containers containing PCBs in a concentration greater than 1% by weight

- "ATTENTION PCB Waste" label; and,

Doors to storage sites, fencing and other security barriers enclosing storage sites

- black and white "ATTENTION PCB" label measuring 150 mm by 150 mm.

4. Storage Area

The Regulation specifies that the floor or other surface on which undrained PCB equipment or PCB liquids are stored, be constructed of durable materials such as steel or concrete, and that any existing openings in the surface be sealed to prevent escape of liquid. Spill containment capacity around stored items is required as follows: single item stored alone—125% of the volume of PCB liquid in the item; more than one item stored together—the larger of twice the volume of PCB liquid in the largest item, or 25% of the volume of PCB liquid stored together. If the containment area surfaces are porous to PCBs, they must be sealed with a durable PCB-resistant coating.

Note that if the PCB liquids are not ignitable, and no ignitable liquids are stored with the PCBs, the Regulation does not require the fire protection provisions specified in section 9. Note also, that where capacitors or other items which are not leaking are stored in drums, the drums can be considered the required spill containment if the capacity provisions specified are met.

XI TREATMENT FACILITY REQUIREMENTS

A treatment facility is a place where the physical or chemical properties of a special waste are changed to reduce or eliminate one or more of its hazards. Treatment facilities can be located either at the point of generation or off site. The requirements apply equally to both cases, with one significant exception: on-site treatment facilities are exempt from the siting, operating and performance requirements of the Special Waste Regulation if they are used only to reduce the volume of a special waste. This is an incentive to industry to minimize the volume of wastes which would otherwise be sent to a central treatment facility.

Dilution is not considered treatment under the regulation.

The following sections briefly discuss the operational requirements and the performance standards for treatment facilities.

A. Operational Requirements (S. 18)

There are two main operational requirements for treatment facilities: firstly that automatic means be provided to shut down the process equipment and waste feed systems in the event of a malfunction, and secondly that an approved demonstration trial be conducted before beginning operation at the facility. The intent of the operational requirements is to ensure that special wastes processed at the facility do not endanger the environment or human health. Additional requirements may be specified in the permit issued to an operation by the director or a manager.

Conducting a demonstration trial is a three-step process. In the first step, all relevant information concerning the waste to be treated, the treatment process, and the proposed method for conducting the demonstration trial (the trial "protocol") must be provided to the Ministry for approval. The process description should at least include details of emissions or residues produced by the treatment, operating conditions, and discussion of any conditions likely to cause adverse effects. In order to be an adequate test of effectiveness, the trial protocol must cover all worst case conditions that could be encountered: this may require more than one test.

The second step of the demonstration process is to carry out the trials according to the approved test protocol. In some cases a representative of the Ministry or other independent party may be required to witness all or part of the trials. Where the Ministry considers that a trial itself could be dangerous, the facility operator may also be required to first conduct a trial using non-hazardous materials. After there is sufficient evidence to show that the process is safe with non-hazardous materials, the trial may proceed with other special wastes.

The third step is to report the results of the demonstration trials to the director or a manager for approval. Approval must be received before the facility commences operation.

B. Performance Standards (S. 19)

The performance standards for treatment facilities require that any emissions or effluent from the facility meet Ministry standards. For air emissions this means meeting approved levels set by permit or other form of authorization for the specific facility, and for effluent discharges not exceeding the applicable set of standards in Schedule 1.2 of the Regulation (shown in Table 6).

The standards applicable to effluent discharges depend on whether the discharge is direct to the environment (includes discharges to storm sewers) or into municipal or industrial effluent treatment works. Any effluent with contaminants exceeding applicable standards would have to be further treated before being discharged.

Note that Schedule 1.2 specifies minimum standards: operators of municipal or industrial treatment works may specify more restrictive standards for discharges into their works. Because Schedule 1.2 does not include every possible contaminant, for specific cases the Ministry may set additional standards.

Anyone wanting to delist a special waste residue should contact the local office of the Environmental Protection Division. They will be advised if there is a delisting protocol approved by the director for the type of residue concerned. Since the delisting process is more stringent than the special waste classification process (i.e. a residue which does not exceed any special waste classification criteria still has to be managed as special waste unless specifically delisted), a treatment facility operator should discuss residue test requirements well before disposal becomes necessary.

Table 6: EFFLUENT STANDARDS FOR SPECIAL WASTE FACILITIES

Parameter	Discharges* to the Environment or Storm Sewers	Discharges*‡ to Municipal or Industrial Effluent Treatment Works
Physical		
pH	6.5 to 8.5**	5.0 to 11.0**
Temperature	32°C	-
Total suspended solid	20	-
Toxicity (Limit bioassay - 50% survival of Rainbow trout after 96 hours))	100% effluent	50% effluent
Inorganics		
Aluminum, dissolved	0.5	2.0
Ammonia, total (expressed as nitrogen)	2.0	-
Antimony, dissolved	0.25	0.5
Arsenic, dissolved	0.1	0.3
Barium, dissolved	1.0	2.5
Boron, dissolved	10.0	15.0
Cadmium, dissolved	0.05	0.1
Chromium, dissolved (hexavalent)	0.1	0.2
Chromium, total	0.5	1.0
Cobalt, dissolved	0.1	0.3
Copper, dissolved	0.1	0.3
Cyanide (weak acid dissociable)	0.1	0.2
Fluoride, dissolved	15.0	18.0
Lead, dissolved	0.1	0.3
Manganese, dissolved	0.5	1.0
Mercury, total	0.001	0.01
Molybdenum, dissolved	0.5	1.0
Nickel, dissolved	0.5	1.0
Selenium, dissolved	0.05	0.1
Tin, dissolved	0.5	1.0
Zinc, dissolved	0.2	0.5
Organics		
5 day Biochemical oxygen demand (BOD)	20	-
Dioxin TEQ	15 pg/L†	15 pg/L†
Oil	10	60
Phenol	0.2	0.5
Polychlorinated biphenyls, total	0.005	0.005
Total chlorinated phenol	0.006	0.05
Total organic halogens (as Cl)	1.0	1.0

* Discharge standards in mg/L unless noted otherwise.

** pH units (negative log of the hydrogen ion concentration).

† pg/L (picograms per litre).

‡ Local municipal requirements may be more restrictive.

XII INCINERATOR AND OTHER THERMAL FACILITY REQUIREMENTS

A thermal facility is a treatment facility where elevated temperatures are used to reduce or eliminate the hazards of a special waste. Treatment units using combustion with oxygen in a controlled flame, are defined as incinerators. Common examples of incinerators are rotary kilns and furnaces. These units are designed to mix oxygen and a fuel in a controlled manner so that the heat output is maximized in a rapid oxidation reaction. Systems using technologies such as plasma arc, infrared and inductive heating are examples of thermal facilities which are not incinerators. In these processes heat is usually generated without the use of a fuel. In each of these cases, intense heat causes a molecular breakdown of the waste.

This section describes the requirements for incinerators and other thermal facilities. Note however, that under section 39.1 of the Special Waste Regulation, facilities burning waste oil not exceeding the specifications given in Table 11 (page 81), are exempt from the requirements of this section. In addition, industrial utility boilers used for destruction of wastes containing low levels of PCBs or pest control products and satisfying the performance requirements discussed in section XII.E, are exempt from specific requirements as noted.

As is the case with treatment facilities, there are no additional siting requirements specifically for thermal facilities. If such requirements are necessary they are specified in the permit or other form of authorization issued by the Ministry.

A. Operational Requirements (S. 20)

Before a new thermal facility can be constructed or installed a report with all relevant technical information about the facility must be submitted to the director, a district director or a manager. The report must include information about the equipment manufacturer, technology, physical size and configuration, any fuel and waste feed systems, air supply systems, automatic safety cutoff systems, exhaust gas pollution control systems, burner design, construction materials, and process control systems. Any other information of assistance in describing the process should also be included to provide a complete picture of the facility.

The report must also contain a prediction of the maximum ground level concentration of any contaminants emitted to the atmosphere for variousmeteorological conditions. Computerized dispersion models are usually used for this purpose. The dispersion model and the calculations must be approved by the Ministry.

1. Demonstration Trials

The next step in the approval process (not applicable to industrial utility boilers used for destruction of low level wastes) requires trial runs of the process to demonstrate the effectiveness of the facility. Although the proposed method for conducting the demonstration trials (the trial "protocol") must be approved by the Ministry beforehand, it is not necessary that the trials be run in British Columbia. The results of trials in other jurisdictions may be accepted if the procedures meet the Ministry's requirements. In order to be an adequate test of effectiveness, the trial protocol must cover all worst case conditions that could be encountered, including a trial with the most difficult waste intended for treatment at the facility. The principal organic hazardous constituents (POHCs) used as the basis for the trial are specified by the Ministry. Where the Ministry considers that a trial itself could be dangerous, the facility operator may also be required to first conduct a trial using non-hazardous (surrogate) materials before the special waste is tested.

The objective of the demonstration trial is to show that the facility is capable of destroying or removing all hazardous constituents from the waste and to verify the concentrations of POHCs in any emissions, effluents or solid residues. The effectiveness of the process is measured by calculating the "destruction removal efficiency" as shown below:

$$DRE = \frac{W_{in} - W_{out}}{W_{in}} \times 100\% \qquad (1)$$

where:

DRE = destruction/removal efficiency in per cent

W_{in} = inlet mass rate of a designated POHC in the waste feed

W_{out} = outlet mass rate of the same POHC in the exhaust emissions

XII INCINERATOR AND OTHER THERMAL FACILITY REQUIREMENTS

The demonstration trial must also identify any significant products of incomplete combustion (PICs) in any emissions, effluents or solid residues. PICs are compounds that are not normally part of the original waste. They are created during incomplete combustion from fragments of partially destroyed waste or fuel molecules. Incomplete combustion most often occurs when incineration temperatures are low or if the waste is not exposed to heat for sufficient time. PICs may be as hazardous as, or more hazardous than the original waste. The director, a district director or a manager may impose concentration limits on any PICs in the permit.

Any effluent from the facility must be analyzed to measure the concentrations of all POHCs, PICs, and the parameters specified in Schedule 1.2 of the Regulation (also shown in Table 6, page 66). Air emissions must be analyzed to measure the concentrations of the parameters specified in Schedule 2 of the Regulation (also shown in Table 7). Atmospheric conditions and ambient concentrations of contaminants also need to be measured during a demonstration trial. This involves taking readings of temperatures, barometric pressure, wind direction and speed, concentrations of POHCs, PICs and any other parameters required by the Ministry. This is necessary to ensure that predictions of the dispersion model can be verified.

2. Combustion Efficiency and Operating Conditions

For incineration based processes, the demonstration trial must also show that the combustion of the waste is complete and efficient (alternate requirements apply to industrial utility boilers used for low level waste destruction). Combustion efficiency is calculated according to the following equation:

$$CE = \frac{CO_2}{CO_2 + CO} \times 100\% \qquad (2)$$

where:

CE = combustion efficiency in per cent

CO_2 = concentration of carbon dioxide in the exhaust gases

CO = concentration of carbon monoxide in the exhaust gases

In an efficient incineration process, oxygen combines with carbon in the waste to form carbon dioxide. If the reaction is hampered by insufficient oxygen or poor mixing of the gases, carbon monoxide is formed. The combustion efficiency is a simple check on the "completeness" of the incineration process. If an incinerator produces CO_2 from sources other than the combustion process (such as occurs in a lime kiln), calculation of the combustion efficiency is not required. This is because the CO_2 produced from other sources in the process cannot be identified separately from that produced by incineration. Hence, the CO_2 concentration cannot be determined for the waste combustion process alone.

In each demonstration trial, the temperature of the reaction zone, the residence time of the waste in that zone, and the concentration of oxygen in the exhaust gases must be measured during the periods used to calculate the DRE. These parameters are important for setting permit operating conditions.

B. Safety Requirements (S. 20(4) to 20(6))

As with other facilities, incinerators and thermal treatment units must have some automatic means of shutting down the operation if an upset occurs. The automatic cutoff system must be tested weekly and any malfunction of this system must be reported to the director or a district director within 24 hours.

The facility and all associated equipment must be inspected daily for leaks or other malfunctions. Leaks and fugitive emissions should be controlled by keeping the works well maintained and under slight negative pressure.

C. Monitoring Requirements (S. 20(8) to (11))

The permit for a facility requires operation within a specific set of conditions. The Regulation specifies the monitoring required for these conditions. Specified monitoring includes the continuous measurement of the combustion zone temperature, the waste feed rate, the exhaust gas flow rate, and the concentrations of CO_2, CO, and

Table 7: EMISSION STANDARDS FOR INCINERATORS AND OTHER THERMAL FACILITIES

Parameter	Maximum Concentration[1] (mg/m^3 unless shown otherwise)	Averaging Period[2]	Monitoring Method[3]
Carbon monoxide	55	4-hr RA	C
Hydrogen chloride	50	8-hr RA	C
Hydrogen fluoride	4	A	A
Nitrogen oxides (as NO_2)	380	A	A
Opacity	5%	1-hr RA	C
Particulate matter	20	A	A
Sulphur dioxide	180	A	A
Total hydrocarbon (as methane)	32	A	A
Trace metals[4]:			
Class I (lead, antimony, copper, manganese, vanadium, zinc)	3.6	A	A
Class II (arsenic, chromium, cobalt, nickel, selenium, tellurium)	0.7	A	A
Class III (thallium, cadmium, mercury)	0.15	A	A

NOTES:

(1) Concentrations are corrected to 11% oxygen and standard conditions of 20°C, 760 mm of mercury and dry basis.

(2) Averaging period codes: RA = rolling average which is the moving time period over which the continuous monitoring data is averaged.
A = as approved by a manager.

(3) Monitoring method codes: C = continuous.
A = as approved by the director.

(4) The concentrations prescribed apply to each individual metal.

Table 8: EFFICIENCY STANDARDS FOR INCINERATORS AND OTHER THERMAL FACILITIES

Parameter	Standard
Destruction Removal Efficiency for:	
Principal Organic Hazardous Constituents	99.99%
Polychlorinated biphenyls	99.9999%
Polychlorinated dibenzofurans	99.9999%
Polychlorinated dibenzo-p-dioxins	99.9999%
Combustion Efficiency for:	
Incinerators	99.9%

O_2 in the exhaust gas.

Also specified in a permit are an emission and ambient air quality monitoring program. The results of the emission monitoring program must be sent to the director, a district director or a manager within 60 days after a test was conducted. Results of ambient air quality monitoring must be submitted within 60 days of the end of each calendar quarter.

D. Performance Requirements (S. 21)

In British Columbia, special waste incinerators and other thermal facilities must be able to meet the performance and emission standards discussed below, in addition to any conditions imposed by the operating permit.

Air emissions may not exceed the standards specified in Schedule 2 of the Regulation (Table 7 in this guide). The destruction removal efficiency and for incinerators, the combustion efficiency must not be less than the standards listed in Table 8 for each parameter. In addition, the operating conditions must be maintained at the values able to achieve these efficiencies, as shown in the demonstration trials.

Liquid effluents from thermal facilities may not exceed the applicable effluent standards specified in Schedule 1.2 (Table 6, page 66). The standards applicable depend on whether the discharge is direct to the environment (includes discharges to storm sewers) or into municipal or industrial effluent treatment works. Any effluent with contaminants exceeding applicable standards must be further treated before being discharged. Note that Schedule 1.2 specifies minimum standards: operators of municipal or industrial treatment works may specify more restrictive standards for discharges into their works. If in a given case contaminants are different than those set in Schedule 1.2, the Ministry may set additional standards for the contaminants not included.

As with other treatment facilities, solid residues such as ash or scrubber water sludge from a thermal facility require to be managed at a special waste facility, unless shown to be non-hazardous. on-site recycling, treatment at the same facility, or some other form of management such as disposal in an off-site secure landfill are all acceptable.

The process for showing that a residue is non-hazardous ("delisting") is allowed for in section 53(1) of the Regulation. If the operator demonstrates according to methods approved by the director, that a residue is no longer a significant risk to human health or the environment, a manager may delist the residue. Delisted residues may be disposed of in an authorized landfill other than a secure landfill, or used in some other manner according to an approved management option.

E. Alternate Performance Standards for Waste Destruction in Industrial Utility Boilers (S. 21(2))

Where industrial utility boilers (such as pulp mill power boilers) are used for destruction of wastes containing low levels of PCBs or PCP (pentachloro phenol), a demonstration trial is not required, and the boiler does not have to meet the performance standards specified in Table 7 and Table 8, provided that: the PCB or pest control content of the waste is less than 500 parts per million (ppm); the minimum rated capacity of the boiler is 15 MW; the boiler is operated at a minimum of 90% of the design steam generating capacity when waste is fed into the boiler; the mass flow of the wastes does not exceed 10% of the mass flow rate of fuel; the carbon monoxide concentration in the exhaust gas is not greater than 50 ppm when using liquid or gaseous fuels, or 100 ppm when using solid fuel; the excess oxygen is a minimum of 3% when waste is burned; and the concentration of carbon monoxide and oxygen in the exhaust gas are monitored in an approved manner.

Note that the thermal facility operational requirements for: submission of a detailed information report prior to use with waste; an alarm and automatic shut off to stop the waste feed when the required operating conditions are not met; inspection, monitoring and reporting still apply, as well as the performance standards for discharge of liquid effluents and management of solid residues.

XIII MOBILE FACILITY REQUIREMENTS

Mobile facilities are most commonly either treatment or incineration units. Some are mounted on a truck or trailer and may be in operation for a short time before moving on to another location. Some mobile facilities take considerable time and effort to set up or take down and might be more appropriately considered transportable. If a mobile or transportable unit operates at one location for less than 1800 hours in a three year period and processes less than 1000 tonnes in that same period the facility qualifies for special consideration under the Regulation.

The primary regulatory difference for qualifying mobile facilities is that the Minister may specify less restrictive siting standards. The justification for this is that the transitory nature of the facility may safely allow operation of the facility under less rigorous requirements. For example, the operation can be scheduled when flood risks are not a factor, thus, allowing operation within a 200 year flood zone for a short time. However two operational requirements have been added for mobile facilities. First, all hoses, pipes and containers used for any special waste or hazardous reagent must be drained before the unit is transported and secondly the emergency system testing must be done annually and repeated each time the unit is moved to a new location.

The performance standards for mobile facilities are the same as those for each individual type of facility. Thus a mobile incinerator must meet the same performance standards as a stationary incinerator and a mobile treatment facility would have to meet the requirements for a stationary treatment facility.

XIV PILES, SURFACE IMPOUNDMENTS AND LAND TREATMENT

Piles, surface impoundments and land treatment works are types of special waste facility where the waste is stored or treated on or in the ground. In these facilities the ground acts to provide extra containment or is a medium for biological treatment. In each of these types of facility, air pollution from volatile liquids or blowing solids may also be produced. Hence, any permit issued under such circumstances would include provisions for protection of the atmosphere.

A waste pile is a facility for storing or treating solid or "nonflowing" wastes. The main concern from an environmental point of view is the possibility of precipitation mixing with the waste to form a leachate. The leachate could eventually move through the waste to contaminate the soil or underlying groundwater.

A surface impoundment is a man-made excavation or diked area constructed primarily of earthen materials, used for short-term storage of either liquids or solids. Surface impoundments must also be designed and operated to prevent, or at least minimize the generation of leachate.

A land treatment facility implies the spreading of an organic waste on land so that air, sunlight and microbial organisms are freely available to decompose the waste biologically. Some inorganic wastes may be contained in the waste but the principal target of treatment is the organic fraction.

In most cases the waste from these three types of facilities would be removed for treatment or disposal at another location. Therefore these facilities (and most special waste facilities) must be managed with the long-term view for a final cleanup and site remediation.

A. Siting Requirements (S. 28)

Section 28 of the Regulation lists all of the additional siting requirements which must be met by any waste pile, surface impoundment or land treatment facility. These requirements are mainly for the protection of groundwater and surface water. Hence, building such facilities in or near wetlands is unacceptable under the Regulation.

Groundwater is protected by requirements that waste piles and surface impoundments must have at least 3 m of soil with low permeability between the bottom of the facility and the seasonally high water table. For land treatment facilities this distance must be at least 1 m. Where the underlying rock is fractured or permeable, there must be least 5 m of low permeability soil between the bottom of the facility and the bedrock. In addition, these types of facility may not be located in the recharge area of any high capacity wells or of a significant number of low capacity wells, within 150 m of any surface water, or within the watershed of a designated community water supply.

B. Operational Requirements (S. 29)

Waste piles, surface impoundments and land treatment facilities are not passive management works which can accept wastes over a long period of time without some care and attention to the way the various components of the system are functioning. These facilities need almost constant surveillance to ensure proper operation. The operating requirements in the Regulation place a responsibility on the owner of the facility to see that all parts of the works are functioning as they were intended.

The operating requirements include:

- inspecting any required liners on a regular basis and where necessary taking immediate corrective action,
- monitoring groundwater and leak detection systems in an approved manner,
- maintaining leachate collection and runoff control facilities, and
- reporting monitoring data and any leaks to the director.

Section 29 of the Regulation should be consulted for a full appreciation of the operating requirements for waste piles, surface impoundments and land treatment facilities.

C. Performance Standards for Waste Piles (S. 30)

The Regulation specifies various requirements for the design and operation of any waste pile. In particular, a pile may not be used to store wastes containing liquids, liquids in containers or any ignitable or reactive wastes; a containment system must be used to hold the waste or any leachate generated at the site; the leak detection

and leachate collection systems must meet the approval of the director or a manager; means are required to prevent storm water draining into the pile; and, any liquid effluents from the pile discharged to the environment or a treatment works must meet the applicable standards in Schedule 1.2 (Table 6, page 66). The need for a liner under the pile, or cover over the pile, or other means of controlling dust depends on the nature of the waste.

A waste pile is considered to be out of compliance with the Regulation if groundwater monitoring shows a significant increase in the concentration of any chemical parameter associated with the waste. The method for determining statistical differences in upstream and downstream concentrations must be approved by the director or a manager.

The final closure of a waste pile must be anticipated during the operating life of the facility, and must follow an approved, written plan. Closure requires removal of any remaining special waste and cleaning up the underlying soil to an approved depth.

D. Performance Standards for Surface Impoundments (S. 31)

The performance standards for surface impoundments reflect the fact that the storage or treatment of liquid special waste in a facility on the ground requires particular attention, including the use of a liner system. Ignitable or reactive wastes may not be stored in surface impoundments. The specifications for design and operation require a minimum freeboard of 0.5 m to be maintained at all times; provision of a fenced inner buffer strip 20 m wide, and installation of automatic devices to shut off the waste flow in the event of any malfunction. The liner system must be approved, and may consist of either 0.5 m of clay or a 1 mm synthetic liner. The liner must be compatible with the chemical properties of the waste at the facility and of sufficient strength to prevent damage or leakage caused by stress.

The presumption of non-compliance, and the performance standards for monitoring, leak detection and leachate collection systems, storm water management, effluent discharges, prevention of wind dispersal and closure are similar to those for waste piles—see section 31 of the Regulation for further details.

E. Performance Standards for Land Treatment Facilities (S. 32)

The Regulation has requirements for land treatment facilities similar to those already discussed in the two previous sections. Because of the great variability of climate and soil conditions (which have a very direct bearing on the types of waste which may be suitable for land treatment), there are no wastes specifically designated as unsuitable for management at facilities using this technique. Where considered necessary, the director or a manager may specify permit conditions to restrict the types of waste that can be treated at a land treatment facility. The presumption of non-compliance, and the performance standards for any liners, leak detection and leachate collection systems, storm water management, effluent discharges, prevention of wind dispersal, and closure are all found in section 32 of the Regulation.

XV SECURE LANDFILL REQUIREMENTS

A secure landfill is often the final disposal option for any wastes which cannot be further reduced or decontaminated. It is a facility designed, constructed and operated to keep wastes confined for an indefinite period of time with little likelihood of future removal. For this reason, secure landfills have some of the most stringent requirements under the Regulation.

A. Siting Requirements (S. 25)

In addition to all of the siting requirements for other facilities, secure landfills must meet very stringent conditions to comply with the regulations. A secure landfill may not be located in a wetland or in an area adjacent to a wetland. A wetland is any land such as a tidal flat, marsh or bog which is frequently inundated by water.

Zones with high earthquake potential are also ruled out. The maximum allowable earthquake potential is a predicted peak ground acceleration of greater than 8% of gravity, with a probability of 10% exceedence in 50 years. Information on seismic zones is given in Commentary J of the Supplement to the National Building Code of Canada 1990. Calculations for specific sites may be obtained for a nominal fee from the Pacific Geoscience Centre (telephone number 363-6500), P.O. Box 6000, Sidney, B.C. V8L 4B2.

Secure landfills must have at least 3 m of soil with low permeability between the bottom liner required for the landfill, and the seasonally high water table. Where the underlying rock is fractured or permeable, there must be least 5 m of low permeability soil between the bottom liner and the bedrock. The standard for soil permeability in both cases is a permeation rate less than 1×10^{-6} cm/s when subjected to a 0.305 m head of water. In addition, a secure landfill may not be located in the recharge area of any high capacity wells or of a significant number of low capacity wells, within 300 m of any surface water, or within the watershed of a designated community water supply. These restrictions are specified in detail in the Regulation, and illustrated in Figure 11.

A secure landfill is also required to be in an area where precipitation falling on the site after the site has been closed will not lead to the generation of a leachate. This restriction is spelled out by the two equations following:

$$P_1 < E_1 + W_s \quad \text{(on a monthly basis)} \qquad (3)$$

$$P_1 < E_1 \quad \text{(on an annual basis)} \qquad (4)$$

where:

P_1 = the precipitation falling on the surface of the closed landfill,

E_1 = the maximum water loss from the surface of the closed landfill by evaporation and transpiration, and

W_s = the water holding capacity of the soil used for the final cover.

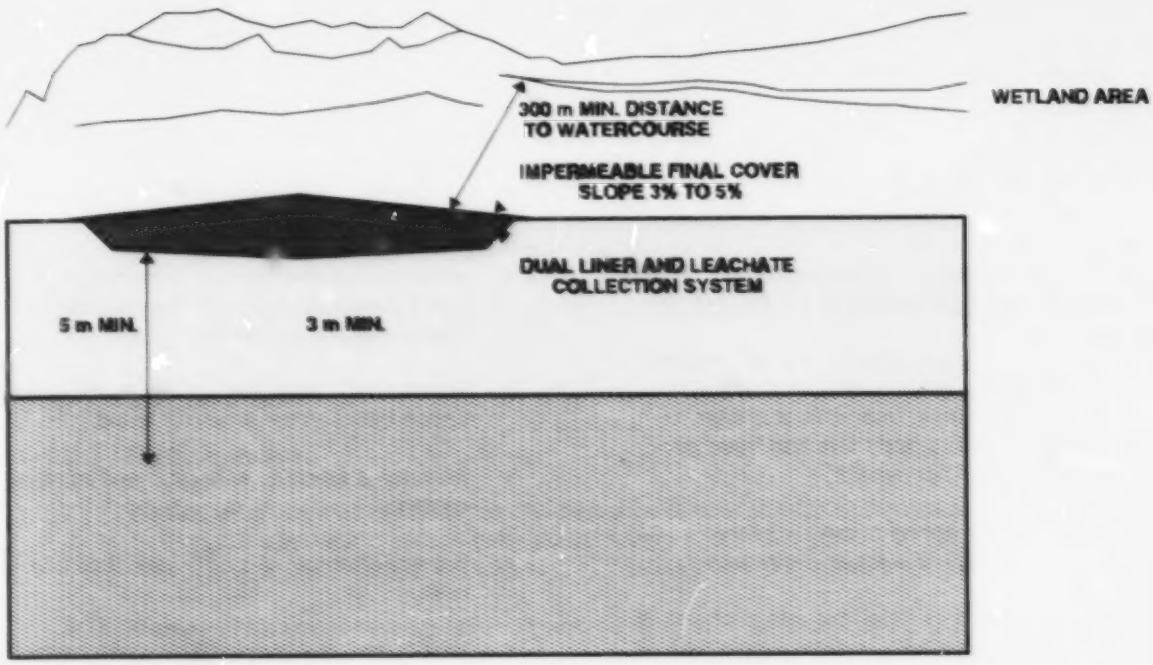
Thus, before a secure landfill can be located in a given area there must be data on the three variables in these equations. If such data does not exist for the site it must be obtained by taking measurements at the proposed site or calculated from data collected in areas with similar weather conditions.

A secure landfill must also have an approved buffer zone controlled or owned by the facility operator or the government, to separate it from other land uses in the area. The Regulation does not specify the size of the buffer zone because it depends on the local situation. For instance if a secure landfill is proposed near a salmon spawning area the size of the buffer zone would be greater than for one located away from any environmentally sensitive areas.

B. Operational Requirements (S. 26)

Owing to the intended permanence of the facility, secure landfills have the most restrictive operating requirements of any facilities covered by the Regulation. Although there may be some cases where provisions are made to recover wastes in the future, the basic premise of a secure landfill is that waste will not be removed at any time. Thus the operational requirements must ensure that the facility will not fail to contain the waste. While Section 26 of the Regulation should be consulted for the full list of requirements, the general intent of these requirements is indicated in this section.

Figure 11: SECURE LANDFILL REQUIREMENTS



PROHIBITED AREAS:
- AREAS WITHIN 200 YEAR FLOODPLAINS (UNLESS PROTECTED)
- AREAS WITHIN 100 m OF A HOLOCENE FAULT
- AREAS PRONE TO TSUNAMIS
- AREAS PRONE TO SLOPE FAILURE
- DESIG

The owner of a secure landfill must:

- inspect the liner system and underlying soil for any damage or imperfections during construction and installation,
- during operation, inspect all works weekly and after any catastrophic events such as severe storms, earthquakes or forest fires,
- repair immediately any damage to the works discovered in the course of the inspections,
- monitor the space between the two required liners, and the groundwater around the landfill, both during operation and after closure to ensure that there has been no breech of the liner system,
- report the monitoring results at intervals specified by the director or a manager,
- record the wastes being put into each cell of the landfill using a three dimensional map or similar record keeping system, to assist in locating wastes if there is a need at any time in the future, and
- cover the active operating area of the landfill with a portable structure or other means, to keep out precipitation and prevent leachate generation.

The purpose of the cover is to keep the material in the secure landfill as dry as possible while waste is being placed into each operating cell. The system must be kept in place until the final cover of the secure landfill is put in place on each cell.

- In addition to the above requirements set by the Regulation, the permit may include other requirements which are specified after a site assessment.

C. Performance Standards (S. 27)

As in the case of the siting and operating requirements, the performance standards for wastes in a secure landfill are set to provide complete, permanent containment with almost zero probability of escape by natural means. Section 27 of the Regulation specifies multiple levels of protection for a secure landfill as shown in Figure 11, and highlighted below.

The owner of a secure landfill must:

- not allow disposal in the landfill of any of the wastes listed in Table 9 (these wastes are better handled at other facilities and could be detrimental to the operation and integrity of the landfill),
- install a dual liner system constructed of materials compatible with the wastes in or leachate from the landfill,
- install a leak detection system to monitor the space between the liners for liquid,
- maintain a leachate collection and removal system,
- prevent drainage of storm water into any cells,
- ensure that any liquid effluents discharged to the environment or public treatment works meet the applicable standards in Schedule 1.2 (Table 6, page 66), and
- prevent wind dispersal of any particulate matter from the surface of the landfill.

A secure landfill is out of compliance with the Regulation if groundwater monitoring shows a significant increase in the concentration of any chemical parameter associated with the waste. The method for determining statistical differences in upstream and downstream concentrations must be approved by the Ministry.

A final closure of a secure landfill must be planned during the initial design phase, well before disposal of any waste actually occurs. The Regulation specifies a final cover with minimum porosity, grade and covering vegetation. The post-closure provisions for the facility must be detailed in a plan approved by the Ministry. The plan should indicate how all parts of the facility will be monitored and operated after closure when the title to the property is transferred to the Crown.

XV SECURE LANDFILL REQUIREMENTS

Table 9: WASTE PROHIBITED FROM DISPOSAL IN A SECURE LANDFILL OR LONG TERM STORAGE FACILITY

1. Liquids.

2. Waste materials which contain free liquids.

3. Containers with:
   (a) liquids, or
   (b) waste material which contain free liquids.

4. Empty waste containers unless they are crushed, shredded or similarly reduced in volume to the maximum practical extent.

5. Ignitable wastes.

6. Reactive wastes.

7. Wastes which contain greater than 1% (by mass) of total organic carbon excluding:
   (a) any organic carbon naturally contained in any soil, and
   (b) any organic carbon occurring in a substance which is not a special waste.

8. Wastes which contain halogenated organic compounds in total concentrations greater than or equal to 1 000 mg/kg.

9. Wastes which when subjected to the Modified Leachate Extraction Procedure referenced in Part 2 of Schedule 4 produces an extract which contains one or more contaminants in Column 1 of Table 1 of Schedule 4 in concentrations equal to or greater than the concentration specified for each contaminant in Column II of the Table.

10. Radioactive wastes.

XVI LONG-TERM STORAGE FACILITIES

Over the years people have come up with many designs for systems which can contain wastes for a very long time. These designs are as simple as using abandoned underground salt mines and as novel as using deep sea-bed burial. The requirements for a long-term storage facility in sections 33 to 35 of the Regulation are provision for at least one design as an alternative to a secure landfill. The concept is that of a permanent structure constructed above-ground level and dedicated solely to waste disposal.

Long term storage facilities could take the form of a concrete monolith, a fortified bunker or any other similar structure. long-term storage facilities have the advantage that the environment around the waste in storage can be controlled and modified if necessary. In addition, visual inspections and maintenance can be carried out as necessary. Also, since such a facility is always visible there is less of a tendency to neglect any aspects of the waste already disposed.

While the overall objective for a long-term storage facility (total long-term containment of wastes) is the same as that for a secure landfill, the siting requirements for long-term storage facilities are less restrictive. In particular, the requirements for groundwater control, surface water control, and location away from areas having high potential seismic activity or precipitation excess ($P_t > E_t$ or $E_t + W_s$ as defined in Section XV of this guide) are relaxed for long-term facilities, because these factors can be controlled by design, rather than by siting as is the case for a secure landfill.

The performance standards for a long-term storage facility are similar to those for a secure landfill. The differences for a long-term facility are that: a single rather than dual liner system is specified; leak detection and leachate collection systems are not required, and; means to prevent wind dispersal of particulate matter and the specifications for a final cover are not applicable.

XVII PROHIBITED MANAGEMENT PRACTICES

The Special Waste Regulation specifically prohibits the following:

Section 36

- mixing of special waste with water, rain water or other materials, or
- division of special waste, "to evade this regulation or similar regulations in another jurisdictions",

Section 37

- injection of special waste into underground rock or soil formations,

Section 38

- operation of any special waste facility on a fresh water body (this does not prevent the transportation of special waste on such waters), and

Section 39

- discharge of any special waste into any municipal landfill or sewer system unless it is expressly authorized by a permit, approval, regulation or a waste management plan.

Note that in section 36, a key phrase is "to evade this regulation". For example, removal of a portion of waste for laboratory analysis to enable proper treatment is "division", but does not have the intent to evade the Regulation. Similarly collecting a bulk load of oil constitutes "mixing", but does not evade the Regulation provided there is no intent to use dilution to make some portion of the consignment fit for a purpose for which it would not otherwise be suitable.

In contrast, dividing and storing a waste in multiple parts to avoid the need for a storage permit is "division" with intent to evade the Regulation. Similarly, mixing small amounts of highly contaminated oil with bulk loads of waste oil in order to meet the specification for waste oil used as a fuel is "mixing" with intent to evade the Regulation.

XVIII SPECIFIC SPECIAL WASTES

The Special Waste Regulation has some alternate requirements for five specific waste types— asbestos, oil, hydrocarbon contaminated soil, pesticides, and waste paint. These wastes are very common and make up a large percentage of the total special waste inventory. The alternate requirements allow these wastes to be managed safely without imposing an excessive administrative burden. Facilities managing the above wastes in accordance with the alternate requirements, are also exempt from the requirement for authorization under the Waste Management Act. If the alternate requirements cannot be met these wastes have to be managed and authorized as any other special waste.

Note that some parts of the Special Waste Regulation still apply, even if a specific waste is managed according the applicable alternate requirements for that waste type. Section 39.1 of the Regulation only provides relaxation of the siting, operating and performance requirements for facilities, contained in Parts 2, 3, and 4.

A. Waste Asbestos (S. 40)

The Regulation defines "waste asbestos" as a waste containing more than 1% of friable asbestos fibres. The key word here is friable. Asbestos which is tightly bound within a solid matrix so that it is not easily crumbled by the hands is not a special waste. The Regulation is not directed at such asbestos materials as hardboard, brake linings or woven cloth. If in doubt, the Worker's Compensation Board test method "Asbestos in Bulk Samples—Dispersion Staining" can be used to determine if the Regulation applies to a particular asbestos waste.

Release of asbestos fibres which may be inhaled, is the main concern associated with this waste type. Hence, the Regulation is designed to eliminate this hazard during transport and disposal. Asbestos which is a special waste, but not mixed with any other hazardous materials may be transported and disposed at any authorized landfill provided each of the following conditions is met:

- the asbestos is saturated with water and put into a non-leaking drum, or if it is dry the asbestos is placed within a 6 mil plastic bag which is sealed within a non-reusable drum or a second 6 mil plastic bag,
- at the landfill, the asbestos is buried immediately with 0.5 m of cover material, and
- the disposal is approved by the landfill operator and the Regional Environmental Protection Manager.

B. Waste Oil (S. 41)

Oil, or a non-hazardous material containing more than 3% by weight of oil, is a special waste if the oil is a refined petroleum product which has become unsuitable for its original purpose owing to the presence of impurities, or a loss of its original properties. Diesel fuel, kerosene, home heating oil, cutting oil, hydraulic oil and automotive lubricating oil and non-hazardous materials containing more than 3% of these oils are all special wastes when they are no longer used for their original purposes.

If the non-hazardous material containing one of the above oils is soil, sand or similar naturally occurring material, the waste oil may qualify for additional management options as "hydrocarbon contaminated soil"—see section XVIII.C for further details.

Where waste oils are contaminated with hazardous materials the situation is more complex. See section III.E of this guide for the procedure to determine whether the waste qualifies as waste oil, or whether it is classified as some other type of special waste.

Typically in the past, waste oil has been poured down sewers, burned as a fuel, spread on roads as a dust suppressant, or recycled. There is mounting evidence that the contaminants in used oil are potentially dangerous to human health and the environment, and it must therefore be closely regulated. The most frequently discussed contaminants include flammable solvents, heavy metals and halogenated organics such as PCBs, all of which are added to the oil through manufacturing, use or improper waste handling.

The Regulation authorizes the use of waste oil for various purposes, provided the conditions indicated below are met:

<u>Manufacture of Pavement</u>

- no parameter exceeds the allowable levels given in Table 10.

Table 10: WASTE OIL SPECIFICATIONS FOR MANUFACTURE OF PAVEMENT OR APPLICATION ON ROADS

Parameter	Allowable Level (Levels are maximums in mg/L unless otherwise indicated)
flash point	60°C minimum
total arsenic	20
total cadmium	3.0
total organic halogens (as Cl)	2 000
total chromium	10
total lead	1 000
total polychlorinated biphenyls	5.0
total zinc	1 000

Table 11: WASTE OIL SPECIFICATIONS FOR USE AS FUEL

Parameter	Allowable Level for Fuel in a Cement Kiln (Levels are maximums in mg/L)	Allowable Level for Fuel in Uses Other than for Cement Kilns (Levels are maximums in mg/L)
total arsenic	20	5.0
total cadmium	3.0	2.0
total organic halogens (as Cl)	3 000	1 500
total chromium	10	10
total lead	1 000	50
total polychlorinated biphenyls	500	3.0

Table 12: STANDARDS FOR MANAGEMENT OF HYDROCARBON CONTAMINATED SOIL

Parameter	Maximum Value (dry weight basis in mg/kg unless otherwise indicated)
total benzene	25
total ethylbenzene	250
total toluene	150
total xylene	250
total oil	10%

Road Construction, Repair and Dust Suppression (permitted only until October 1, 1992)

- no parameter exceeds the allowable levels given in Table 10,
- application is not within 25 m of any surface water or water well,
- the application rate does not cause a visible runoff of oil,
- permission has been obtained from the owner of the land to which the oil is applied, and
- application is not more than twice per calender year.

Incineration as a Fuel

- no parameter exceeds the allowable levels given in Table 11, for the applicable fuel use.

Because burning releases contaminants directly to the atmosphere the specifications for this use shown in Table 11, are very stringent. The standards are so restrictive that in most cases re-refining will be required before waste may be used as a fuel: the benefit is that facilities using such oil are not subject to regulation as thermal facilities or incinerators. Note that mixing or blending may not be used to upgrade the specifications of waste oil for fuel use, and that any oil sold for this use, must be analyzed and shown to meet the applicable standards prior to sale.

C. Hydrocarbon Contaminated Soil

Hydrocarbon contaminated soil "means soil, sand, gravel, rock or similar naturally occurring materials which is contaminated only with a petroleum product..." This definition therefore means that some special wastes which meet the definition of waste oil, or leachable toxic waste under the Special Waste Regulation because of contamination with benzene, toluene, xylene, or ethylbenzene, are also hydrocarbon contaminated soil.

The Regulation authorizes various means for management of hydrocarbon contaminated soil, provided the conditions indicated below are met:

Use in Manufacture of Asphalt

- the soil is special waste solely owing to the presence of the contaminants listed in Table 12
- no parameter exceeds the standards specified in Table 12,
- the daily quantity of contaminated soil does not comprise more than 10% of the total material feed to the asphalt plant.

Treatment and short-term Storage

- the soil is special waste solely owing to the presence of the contaminants listed in Table 12
- no parameter exceeds the standards specified in Table 12,
- the treatment and short-term storage occurs on the site where the contaminated soil was generated, or at an authorized landfill or storage facility,
- notification is provided to, and management is in accordance with the requirements of, a manager, and
- the contaminated soil is spread in single layers not exceeding 0.3 m in thickness per year.

Hydrocarbon contaminated soil which has been treated so that it is no longer special waste, may be disposed of in a landfill if prior approval is obtained from the landfill owner and a manager, and the deposit is in accordance with the requirements specified by the manager.

D. Waste Pest Control Products and Containers (S. 42)

Pesticides are products widely used in industry and the home. The Regulation defines a pest control product as any of the thousands of products registered under the federal Pest Control Products Act and provides for their disposal in a manner which is safe but yet does not require an undue amount of administrative supervision. Any waste pesticide which is not managed in the manner set out in section 42 of the Regulation must be handled in accordance with requirements

applicable to other special waste. Although the Regulation does not apply to wastes in quantities less than 5 L or 5 kg it is good practice to follow the procedures in this section for household quantities as well. The Regulation also states that any pesticide container that is labelled "DOMESTIC" is not a special waste if it is emptied and rinsed in the ways discussed in this section.

Before beginning the discussion on disposal, a few terms need to be clarified. These terms are:

1. Appropriate Solvent

An appropriate solvent is any solvent (such as water) which is able to dissolve the pesticide. It should be compatible with the carrier fluids in the pesticide and not be a special waste itself.

2. Empty

As simple as it may sound the Regulation specifies that empty means to do one of the following:

- drain a liquid container into a mixing tank for not less than 30 seconds,
- shake residues from an inner liner into a mixing tank, or
- use all of the contents of a pressurized container without puncturing it.

3. Rinse

This means to do all of the following in order:

- fill the container with a quantity of an appropriate solvent, not less than 20% of the container volume,
- close and shake the container so that all inside surfaces are contacted with the solvent, and
- empty the container as defined above.

4. Pressure Rinse

This means to use a pressurized spray of appropriate solvent for 30 seconds to rinse the interior of a container.

Before a pesticide container may be disposed of in approved landfill, the rinsing methods specified in Table 13 must be followed according to the type of container. For example, pressurized containers such as spray cans and containers which are labelled "DOMESTIC" do not need to be rinsed. Any container not described in the table must be rinsed by a method approved by the Ministry.

Empty rinsed containers may be disposed of by burial provided that:

- the burial location is on land owned or leased, or in a tree farm licence owned, leased or maintained, by the person owning the container,
- the burial location is on flat ground, not in a swale, and at least 200 m from surface water or a well,
- the ground does not consist of gravel, sand or similarly porous material, and
- the containers are covered with at least 0.5 m of soil immediately after burial.

Empty rinsed containers may also be recycled, but such containers may not be suitable for all purposes.

Wherever possible, the rinse solution should be used in the mixing of the pesticide. If this cannot be done, the rinse solution may be disposed without further approval, provided that:

- the disposal location is on the land where the pesticide was used,
- the disposal location is on flat ground, not in a swale, and at least 200 m from surface water or a well, and
- the ground does not consist of gravel, sand or similarly porous material.

E. Waste Paint (S.42.1)

Waste paint and related materials are defined to be special waste if they are no longer used for their original purpose and are dangerous goods (exceed the Transportation of Dangerous Goods Regulations criteria for class 3, division 2 or 3, for

Table 13: METHODS FOR RINSING WASTE PEST CONTROL PRODUCT CONTAINERS

Type of Container	Rinsing Method
rigid plastic or metal (non-pressurized)	pressure rinse, or single rinse 3 times
rigid plastic or metal (pressurized)	no rinsing required
glass bottle	rinse 3 times
paper bag	rinse
plastic bag	rinse
containers labelled "Domestic"	no rinsing required
any container type not listed above	as approved

Table 14: WASTE PAINT SPECIFICATIONS FOR RECYCLING

Parameter	Allowable Level
total polychlorinated biphenyls	2 mg/L
total lead	1.00% by weight
total mercury	75 mg/L
total organic chlorides (as Cl)	1.00% by weight

Class 8 or Class 9). Section 42.1 of the Special Waste Regulation authorizes management of waste paint provided the conditions indicated below are met:

Treatment

- the facilities treating the waste paint are owned and operated by a paint manufacturer or formulator.

Recycling

- the waste paint does not exceed the specifications given in Table 14,
- records of the quantities of waste paint recycled are maintained for 2 years from the date the paint is recycled, and
- the quantities recycled are reported to the director within 31 days of the end of the calendar year.

Recycle facilities, and paint wholesale or retail operations, are also exempt from the requirement under Section 4(1) of the Waste Management Act to hold some form of authorization for storing waste paint.

Figure 12: AUTHORIZATION REQUIRED FOR SPECIAL WASTE MANAGEMENT

AUTHORIZATION REQUIRED FOR FACILITIES (ACT S. 3.2)	All Special Waste Facilities must be operated in accordance with: · a permit · an approval · an order, or · a waste management plan and · the Waste Management Act, and · the Special Waste Regulation
EXEMPTIONS (REG. S. 2)	The following operations are exempt from Section 3.2 of the Act and the Regulation: · facilities handling less than 5 L or 5 kg of wastes except PCBs · facilities handling less than 1 kg of PCB, or 100 L or 100 kg of PCB contaminated materials The following operations are exempt from Section 3.2(a) of the Act and many provisions of the Regulation: · on site treatment for volume reduction only · on site recycle facilities if the material is part of the process feed or the process product · off site recycle facilities if the material is less than 5% of the process feed · temporary storage facilities The following operations are exempt from Section 3.2(a) of the Act: · facilities without emissions or discharges · facilities discharging to authorized works The following operations require authorization under Section 3.2(a) of the Act but are exempt from many provisions of the Regulation: · mine tailings and waste rock · on site, or approved off site, facilities for management of special waste from historical contaminated sites (including in situ facilities if approval from the director is obtained prior to construction or operation)

SPECIAL WASTE GENERATORS	· existing generators should be registered · new generators must register within 30 days of producing special waste · must use Consignor Identification Number (BCG No.) if one is issued

SPECIAL WASTE STORAGE	· existing storage should be registered · a permit is required if the stored quantity is greater then the amounts shown in Table 15 · facilities existing on April 1, 1988, and registered by July 1, 1988, require to apply for a permit when ordered to do so · new facilities must obtain a permit before commencing operation

TRANSPORTERS (CARRIERS)	· must have a licence to transport special waste by road (Note: Transport licences are not required: - for transport solely on the generator's property, or - by generators carrying their own waste in quantities less than the generator registration quantity)

FACILITIES		COMPLIANCE DATE FOR:	
		EXISTING	NEW
	On Site	· siting requirements - must be met on a date set by the Minister · operational and performance requirements - January 1, 1990, unless an alternate date has been set by the Minister	· April 1, 1988
	Off Site	· siting, operational and performance requirements - January 1, 1990, unless an alternate date has been set by the Minister	· April 1, 1988

XIX PERMITS AND OTHER FORMS OF AUTHORIZATION

The discharge of any waste to the environment is prohibited unless it is authorized under the Waste Management Act or its regulations. Similar authorization under the Act is required for any facility used to manage special waste in any way or to store more special waste than the applicable quantity shown in Table 15 (Schedule 6 of the Special Waste Regulation, including the relaxation in section 48(4) applicable to special waste generated by a program to replace street light ballasts). Types of authorizations include permits, orders, approvals, specific regulations or waste management plans. A list and brief explanation of the various forms of authorization is given below:

1. Regulations

Regulations are requirements issued by the Lieutenant Governor-in-Council, usually for specific types of waste or for administrative procedures which affect large sectors of the population.

2. Permits

Permits are an authorization issued by the director or a manager for a specific type and quantity of waste at a specific place. Permits may be issued for discharges of waste or storage of special waste.

3. Approvals

Approvals are a short term authorization similar to a permit but valid for 15 months or less. They are usually used for testing of equipment or for discharges of short duration.

4. Waste Management Plans

A waste management plan is an authorization issued by the Minister to a municipality for wastes managed by that municipality.

5. Orders

Orders are requirements issued by the Minister (e.g. spill prevention orders) or a manager (e.g. pollution abatement orders) to take action which is beyond the terms of any other form of authorization.

6. Transport Licence

A transport licence is an authorization to transport special waste given by the director.

A. Applications for Permits

Permits and other forms of authorization for special waste management are obtained by the same administrative procedures as those for non-special wastes. Permits, approvals and orders normally contain terms and conditions applicable to each individual case. These are additional to the requirements in the Regulation. For instance, permits restrict the types and quantities of special waste which may be managed at any individual facility. Monitoring and reporting requirements are also specified in the permit. Whereas a regulation covers a general situation, a permit, approval or order applies to an individual case.

The steps for obtaining a permit are:

- obtain a copy of the appropriate application forms from the nearest office of the Environmental Protection Program (see Appendix A for office locations),
- complete the forms, remembering to sign and date them,
- post one copy of the completed form at a conspicuous place at the site,
- send two copies of the completed form and a site plan to the Waste Manager for the Ministry region in which the discharge is located, within 15 days of signing the application,
- carry out any instructions given by the Ministry for publication of the application or public notification, and
- provide any additional information as required by the Ministry.

The following sections describe the procedures followed in any permit application.

Table 15: STORAGE PERMIT QUANTITIES

Waste Classification or Name	Storage Quantity (kg or L as appropriate)
1	50
2.1	5 000 *
2.2	10 000 *
2.3	500 *
2.4	500 *
3.1	1 000
3.2	5 000
3.3	10 000 *
4.1	10 000 *
4.2	1 000
4.3	1 000
5.1	1 000
5.2	50
6.1	1 000
6.2	1 000
8	1 000
9.1	5 000
9.2	100 †
9.3	10 000
waste asbestos	10 000
waste oil or waste oil contaminated with lead	50 000
waste pest control products	1 000
waste pest control product containers	5 000 *
leachable toxic waste	10 000
waste batteries‡	10 000
waste containing dioxin	10
waste containing polycyclic aromatic hydrocarbons	100
waste containing tetrachloroethylene	1 000

* total liquid volume capacity of container(s)

† quantity is 1 000 kg for special waste generated by a street light ballast replacement program, and stored according to the provisions of section 48(4)

‡ filled, or drained of electrolyte

B. Publication and Notification

All applications for permits must be posted at the proposed waste management site. In addition, two copies of the application must be sent to the appropriate Regional Environmental Protection Manager. When the completed application is received by the Environmental Protection Program, it is checked for completeness and then automatically published in the British Columbia Gazette. At the same time, a decision is made on where further notice should be given to the public.

In virtually all cases, publication of the application in a local newspaper, or display at a Canada Post Office, is required. In some cases there may be a requirement to serve the application directly to persons who may be adversely affected by the discharge, emission or storage of a waste. It is also the policy of the Environmental Protection Program to refer applications to other government agencies for review.

C. Assessment

Each permit application receives a technical review by a staff member of the Environmental Protection Program before a formal decision is made by the director or a manager. This review assesses the ability of the proposed management system to meet the requirements of the Act and the regulations. Usually the review requires a detailed site inspection and is completed after all information and comments have been received from the public and other government agencies. The applicant may be asked to supply more information if considered necessary for the assessment. Sometimes delays at the assessment stage can be avoided if the applicant meets with Environmental Protection Program staff prior to submitting the application to learn what additional information may be required.

As a general rule Environmental Protection Program files are open to the public, and persons with a valid interest in a specific file may view the information on that file.

The assessment process for permits can take anywhere from three or four months to a year or more, depending on the availability of information and the complexity of the application. Approvals and orders are generally processed much faster because of the temporary nature of these forms of authorization.

D. Concerned Persons

Anyone who feels that the authorization of a storage facility or the discharge of a waste would adversely affect him may notify the manager of his concerns, within 30 days of the last date of posting or publication of an application. He must state in writing how he is or would be affected. Any information which may have bearing on the decision of the manager should be brought to his attention at this time. Note that a manager's decision on a waste management permit application is made on the basis of protection of human health and the environment. Issues such as land use, job creation, economic conditions, etc. are not part of the environmental assessment and are more appropriately addressed in other forums of debate and appeal (e.g. municipal council hearings, before the ombudsman, in the courts or the legislature).

The manager may require the applicant to meet with any concerned person to explain and clarify the intent of the application. Such meetings may be very small and informal or more formal if there are a large number of concerned persons.

E. Notice of a Manager's Decision

Upon reaching a decision on an application the manager will, in accordance with the Waste Management Regulation, notify the applicant and anyone recognized as a concerned person. This notification of the manager's decision may be either by mail or a notice published in a local newspaper.

F. The Appeal Process

Anyone dissatisfied with a manager's decision may appeal to the director. A further appeal to the Environmental Appeal Board is available on any decision made by the director.

An appeal is started by sending written notice of "intent to appeal" to the manager. This notice of appeal must be sent within 21 days of the notice of the manager's decision. Appeals to the Environmental Appeal Board must also be made within 21 days of the notice of the director's decision, and accompanied by a $25.00 fee. The director or the chairman of the Environmental Appeal Board may extend the appeal period.

When considering an appeal the director or the appeal board may hold a hearing, confirm or

vary the decision being appealed, or make a new decision. If a hearing is held, the director or the appeal board will notify the parties concerned of the date, time and location.

All hearings before the Environmental Appeal Board are open to the public, and a transcript is made of all the proceedings and testimony. When the decision is reached on an appeal, written reasons are given, and notice of the decision is sent to those involved in the appeal. The Environmental Appeal Board Procedure Regulation under the Environment Management Act describes the steps to be taken in appeals of decisions made by the director.

An appeal does not suspend or delay a decision under appeal unless the person or board hearing the appeal takes steps to set aside the original decision. Decisions of the Environmental Appeal Board are considered final except for any possible legal challenges. Although there is no formal appeal beyond the Appeal Board, the Cabinet may on its own initiative alter a decision of the Environmental Appeal Board.

G. Specific Exemptions

There are a number of situations where it is recognized that the general requirements of the Special Waste Regulation may not be appropriate. Particular examples are special wastes arising from accidental spills, or wastes classified as special wastes, which can be shown not to pose any significant risk to health or the environment. Other examples may arise from technological developments, or be specific to the circumstances of a particular case. These situations are dealt with in Part 9 of the Regulation as described below.

1. Application for Change in Requirements

If a person feels that his case does not fit the normal situation described by the Regulation, he may make an application to the director or a manager requesting a change in the requirements. The applicant must substantiate the requested change with reports, test data or similar information which indicate why the Regulation is not applicable. In order to be successful, the applicant must demonstrate one of the following to the satisfaction of the director: that the waste is not hazardous; that the facility where the waste is managed provides better protection than that offered by the Regulation; or, that there are natural site specific conditions which mitigate the hazards of the waste. The process for obtaining a change in requirements is similar to the one used to obtain a permit.

2. Spills or Abandonment of Dangerous Goods

Section 52 allows a manager or an officer designated by a manager to exempt any person from any of the requirements of the Regulation if the special waste is from a spill, or the abandonment of dangerous goods. This provision facilitates timely response to incidents involving dangerous goods. In particular, an officer acting in the performance of his duties in such situations is exempt from the administrative requirements of Part 7 of the Regulation (registration, consignor identification number, transport licence, manifesting etc).

Note that in most cases, spills of dangerous goods require to be reported under the provisions of the Spill Reporting Regulation, and that eligibility for relaxation of the requirements as discussed above, may depend on such reports having been made.

3. Delisting

Section 53 of the Regulation makes provision for the director to approve methods used to demonstrate that special wastes, or residues from treatment of special wastes do not pose any significant risk to human health or the environment. This process is referred to as "delisting".

Special wastes or classes of special wastes may only be delisted by the director on the basis of tests carried out according to an approved method. For example, use of flyash in the manufacture of concrete blocks might be a candidate case for delisting a special waste.

Residues from a treatment process or incineration may be delisted by the director or a manager, if shown not to pose a hazard according to a method approved by the director.

XX ENFORCEMENT AND PENALTIES

Special waste regulations are enforced by the Environmental Protection Program and the Conservation Officer Service. Complaints are investigated and spot checks are made of waste management facilities, industrial operations and vehicles. Environmental Protection Officers and Conservation Officers have the right to enter non-residential property at any reasonable time to investigate works and activities which could cause waste or pollution. In carrying out such inspections, officers may examine and remove records, conduct investigations, take samples for analysis, or make other measurements as necessary. The Waste Management Act also empowers officers to stop and request the opening for inspection of road or rail vehicles at any reasonable time. Warrants to enter property and vehicles may be obtained from a justice if necessary.

Police officers may also make such vehicle inspections, and as a result, a vehicle and its cargo may be seized or ordered to be dealt with in any manner considered necessary. Any costs incurred in the disposal or handling of an impounded vehicle or waste will be charged against the owner.

A list of offences, and maximum penalties arising from the Act, the Special Waste Regulation, and the Spill Reporting Regulation is shown in Table 16.

Table 16: OFFENCES AND PENALTIES

Section of the Act	Offence	Maximum Penalty
3(1.1 & 1.2)	Causing or allowing waste to enter the environment without authorization.	$1 000 000
3.1(1)	Failure to keep a special waste confined in accordance with the regulations.	$1 000 000
3.1(2)	Releasing special waste from confinement required in 3.1(1) of the Act.	$1 000 000
3.2	Constructing, establishing, altering, enlarging, extending, using or operating a special waste facility without authority.	$1 000 000
4(1)	Storing special waste without proper authorization.	$1 000 000
4(3)	Failure to apply for a special waste storage permit within 60 days of being ordered to do so.	$200 000
4(4)	Failure to dispose of a special waste as ordered by a manager.	$1 000 000
5(1)	Failure of a shipper to comply with manifest requirements.	$200 000
5(2)	Failure of a carrier to comply with manifest requirements.	$200 000
5(3)(a)	Accepting delivery of a waste which is not accompanied by an appropriately completed manifest.	$200 000
5(3)(b)	Failure of a receiver to complete and file a manifest.	$200 000
5(3)(c)	Accepting delivery of a special waste without having authorization to operate a storage, treatment, or disposal facility.	$300 000
10(5)	Failure to report a spill or unauthorized introduction of waste into the environment.	$200 000
21.1	Failure to allow inspection of a vehicle, or to obey an instruction resulting from an inspection of a vehicle.	$200 000
34(4)	Giving false information on a manifest.	$200 000
34(5)	Failure to comply with a discharge permit or approval when discharging a waste.	$1 000 000
34(5.1)	Failure to comply with a discharge permit or approval.	$300 000
34(6)	Failure to comply with a storage permit or approval while storing a special waste.	$1 000 000
34(8)	Failure to comply with an order or requirement.	$300 000
34(9)	Failure of a municipality to comply with a waste management plan.	$300 000
34(15)	Failure to comply with any requirement of the Special Waste Regulation.	$1 000 000
34(15.1)	Failure to comply with specified quantities or characteristics of waste that may be introduced into the environment.	$1 000 000
34.2	Intentional damage to the environment, or reckless disregard for safety causing harm.	$3 000 000

Other Relevant Provisions:

34(10)	Individuals responsible for actions which result in the conviction of a corporation, are deemed to have committed the offence for which the corporation is convicted.
34(13)	For offences under section 34, fines up to the maximum amount shown can be imposed for each day that an offence continues.
34(16)	For offences under section 34, a term of up to six months imprisonment may be imposed in addition to the fines shown.
34.1	Additional fines may be imposed, equal to the monetary gain resulting from commission of an offence.

XXI CONTINGENCY PLANNING

The Waste Management Act empowers the Minister of Environment, Lands and Parks to require anyone who has control over a polluting substance to prepare a contingency plan and make other preparations to counteract the possibility of spills. The minister may require that person to undertake investigations of potential risks, prepare an approved contingency plan or construct works considered necessary to abate pollution from a spill. In some cases the minister may order the contingency plan be tested to judge its effectiveness.

Staff in the regional offices of the Environmental Protection Program review each contingency plan and provide assistance with development of completion schedules and information on regulatory requirements. Site inspections are normally made and improvements recommended where necessary. Anyone needing assistance in preparing a contingency plan should contact the nearest office of the Environmental Protection Program.

XXII SPILLS AND OTHER EMERGENCIES

The Spill Reporting Regulation requires reporting of spills of any materials that could cause pollution, where the quantity of spilled material is equal to or greater than that specified in Table 17 (Schedule to the Spill Reporting Regulation). The spill should be reported by the person who was in charge of the material before it was spilled, or by anyone observing a spill, if it appears that the spill has not been reported. The report should be made to the Provincial Emergency Program (telephone 1-800-663-3456 or 387-5956), or to the local police or nearest detachment of the RCMP. Where possible, the report should include the following information:

- the name and telephone number of the person reporting the spill,
- the name and telephone number of the person who caused the spill,
- the time and place at which the spill occurred, together with a description of the area surrounding the spill,
- the type and quantity of material spilled,
- the cause and effect of the spill,
- details of any response action under way, including a list of agencies on the scene or advised of the spill, and
- details of further action required.

Containment and cleanup action should begin as soon as possible to protect human health and the environment. If the party causing the spill or local response agencies are unable to respond adequately to a spill the Minister of Environment, Lands and Parks may step in to take control of the situation. If necessary, he may declare an environmental emergency under the Environment Management Act and order the provision of services, labour, equipment or access to land in order to prevent or control a spill.

In addition, the agencies listed below should also be immediately advised according to the type of incident concerned:

Spills to Marine Waters (i.e. saltwater)

- Canadian Coast Guard in Vancouver at 666-6011.

"Dangerous Occurrences" as Defined in Part IX of the Transportation of Dangerous Goods Regulations

- Provincial Emergency Program at 387-5956 or 1-800-663-3456, or the local police.

Motor Vehicle Accidents

- local police, and
- local fire department, if necessary.

Table 17: REPORTABLE QUANTITIES FOR SPILLS

Classification or Name of Spilled Substance	Reportable Quantity
1	any
2.1	10 kg *
2.2	10 kg *
2.3	5 kg *
2.4	5 kg *
3	100 L
4	25 kg
5.1	50 kg
5.2	1 kg
6.1	5 kg
6.2	any
7	any †
8	5 kg
9.1	50 kg
9.2	1 kg
9.3	5 kg
waste asbestos	50 kg
waste oil	100 L
waste pesticides	5 kg
any substance not listed above that can cause pollution	200 kg

* where spill results from equipment failure, error or deliberate action or inaction

† or where a radiation level exceeds 10 mSv/h at a package surface, or 200 μSv/h at a distance of 1 m from a surface

APPENDIX A: WASTE MANAGEMENT AND EMERGENCY CONTACTS

Environmental Protection Program

The BC Environment offices listed below should be contacted for permit and licence application forms, manifest forms and advice regarding this guide and British Columbia's laws and regulations for special wastes:

HEADQUARTERS:

3rd Floor, 777 Broughton Street
Victoria, B.C.
Telephone: 387-9955
Facsimile: 387-9935

VANCOUVER ISLAND REGION

2569 Kenworth Road
Nanaimo, B.C.
V9T 4P7
Telephone: 758-3951
Facsimile: 755-2473

LOWER MAINLAND REGION

15326 - 103A Avenue
Surrey, B.C.
V3R 7A2
Telephone: 582-5200
Facsimile: 584-9751

SOUTHERN INTERIOR REGION

1259 Dalhousie Drive
Kamloops, B.C.
V2C 5Z5
Telephone: 371-6200
Facsimile: 828-4000

Sub-offices

201-3547 Skaha Lake Rd.
Penticton, B.C.
V2A 7K2
Telephone: 490-8200
Facsimile: 492-1314

200-3201 30th St.
Vernon, B.C.
V1T 9G3
Telephone: 549-5466
Facsimile: 549-5641

SKEENA REGION

3726 Alfred Avenue
Bag 5000
Smithers, B.C.
V0J 2N0
Telephone: 847-7260
Facsimile: 847-7591

KOOTENAY REGION

617 Vernon Street
Nelson, B.C.
V1L 4E9
Telephone: 354-6333
Facsimile: 354-6332

Sub-offices

1617 Baker Street
Cranbrook, B.C.
V1C 1B4
Telephone: 426-1475
Facsimile: 426-1481

NORTHERN INTERIOR REGION

1011 - 4th Avenue
Prince George, B.C.
V2L 3H9
Telephone: 565-6135
Facsimile: 565-6629

Sub-offices

540 Borland Street
Williams Lake, B.C.
V2G 1R8
Telephone: 398-4530
Facsimile: 398-4214

200 - 10003 110th Avenue
Fort St. John, B.C.
V1J 6M7
Telephone: 787-3295
Facsimile: 787-3507

APPENDIX A: WASTE MANAGEMENT AND EMERGENCY CONTACTS

PROVINCIAL EMERGENCY PROGRAM

Call the Provincial Emergency Program to report spills of dangerous goods or special wastes.

HEADQUARTERS

Provincial Emergency Program
3287 Oak Street
Victoria, British Columbia
V8X 1P8

Telephone: 387-5956 (24 hours) or
1-800-663-3456

MINISTRY OF ATTORNEY GENERAL

Call the Motor Vehicle Branch for dangerous goods information.

Dangerous Goods Information
2631 Douglas Street
Victoria, British Columbia
V8T 5A3

Telephone: 387-5585

WORKERS' COMPENSATION BOARD OF BRITISH COLUMBIA

Call the Workers' Compensation Board to obtain information about occupational hazards.

6951 Westminster Highway
Richmond, British Columbia
V7C 1C6

Telephone: 276-3100
After Hours: 273-7711
or contact local WCB offices throughout the Province

TRANSPORT CANADA

To obtain information on the Federal Transport of Dangerous Goods Act and Regulations contact Transport Canada.

Transport Canada
Tower B
Place de Ville
Ottawa, Ontario
K1A 0N5

Telephone: (613) 992-4624 (information)
(613) 996-6666
(emergencies—CANUTEC)

Transport Canada
201-549 Columbia Street
New Westminster, British Columbia
V3L 1B3

666-2955

Canadian Coast Guard
100 South Park Royal
West Vancouver, British Columbia
V7T 1A2

666-6011 (24 hour marine spills)

ENVIRONMENT CANADA

Call Conservation and Protection to obtain information on Federal environmental programs.

Conservation and Protection
224 West Esplanade
North Vancouver, British Columbia
V7M 3H7

Telephone: 666-6711

APPENDIX B: INFORMATION SOURCES

Apart from agencies, there are a variety of general sources of information available concerning the management of special wastes. Included are legislation, publications such as fact sheets, brochures, reports and books, and audio/visual aids. The following lists provide a general introduction to the topic of special waste management.

A. Legislation

1. British Columbia Waste Management Act, SBC 1982 Chapter 41 including Waste Management Amendment Act, 1987.

2. British Columbia Waste Management Act Waste Management Regulation.

3. British Columbia Waste Management Act Special Waste Regulation, established by Order in Council, effective April 1, 1988.

4. British Columbia Environment Management Act, SBC 1981 Chapter 14.

5. British Columbia Environment Management Act Environmental Appeal Board Procedure Regulation, Filed January 11, 1982.

6. Transportation of Dangerous Goods Act, July 17, 1980, Chapter 36, Statutes of Canada as amended from time to time.

B. BC Environment, Lands and Parks Publications and Audio Visual Material

1. British Columbia Ministry of Environment - British Columbia Hazardous Waste Advisory Committee: Hazardous Waste Management in British Columbia, June 1981.

2. B.C. Ministry of Environment Special Waste Fact Sheets:
   1 Special Wastes The 99.9999 Per Cent Solution
   2 Special Wastes - Our Everyday Culprits
   3 The Special Waste Alternatives
   4 Special Wastes - A History
   5 The Home Front
   6 Special Wastes - Sharing the Challenge
   7 Technology and Special Waste Management

3. Special Wastes. Treatment and Storage Facilities (fact sheet).

4. PCBs - Resolving the Problem (fact sheet).

5. B.C. Ministry of Environment and Parks, Hoebel M: Special Wastes in British Columbia. An environmental education package for secondary school students, April 1984.

6. Reid, Crowther and Partners Ltd., Hazardous Wastes in Northern and Western Canada. The Need for a Waste Management Strategy (3 Vols.), 1980.

7. Special Waste Advisory Committee, Interim Report, December, 1987.

8. Special Waste Advisory Committee, Development of a Special Waste Management Program in British Columbia, May, 1988.

APPENDIX B: INFORMATION SOURCES

C. Selected Reference Books

1. Environment Canada: User's Guide to Hazardous Waste Classification (Transportation of Dangerous Goods Regulations), 1st Edition, April, 1987.

2. Environment Canada: User's Guide for the Hazardous Waste Manifest (Transportation of Dangerous Goods Act).

3. Transport Canada: Emergency Response Guide for Dangerous Goods (second edition), Copp Clark Pitman, Toronto, 1982.

4. Fingas, Mervin F., et al: The Basics of Oil Spill Cleanup, Environment Canada, Ottawa, 1979.

5. Mackison, Frank W., et al: NIOSH/OSHA Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, U.S. Department of Labor, 1978.

6. deGonzague, J. and S. Lawrie (eds.): Handbook on PCB's in Electrical Equipment, Environment Canada, Ottawa, 1981.

7. Sax, N. Irving, and R.J. Lewis Jr: Dangerous Properties of Industrial Materials (6th edition), Van Nostrand Reinhold Co., New York, 1987.

8. Weiss, G.: Hazardous Chemicals Data Book, Noyes Data Corporation, Park Ridge, New Jersey, 1980.

9. National Fire Protection Association: Fire Protection Guide on Hazardous Materials (8th ed.), Quincy, Massachusetts, 1984.

10. Windholz, M., S. Budavari, L.Y. Stroumtsos, and M.N. Fertig (eds.): The Merck Index (9th edition), Merck & Co., Inc., Rahway, New Jersey, 1976.

11. Environment Canada: Manual for Spills of Hazardous Materials, Supply and Services Canada, Cat. No. Env 40-320/1984E, March 1984.

12. Clayton and Clayton (eds): Patty's Industrial Hygiene and Toxicology, Vol. 1-5, (Third Revised Ed.) John Wiley & sons.

13. Gosselin, R.E., Smith, R.P., and Hodge, H.C.: Clinical Toxicology of Commercial Products, (Fifth edition) Williams & Wilkins.

APPENDIX C: APPLICATION AND PERMIT FORMS

- Initial Generator Registration Form
- Generator Registration Update Form
- Manifest (Face side)
- Multiple Consignors Form
- Multiple Carriers Form
- Multiple Wastes Form
- Notification
- Application for a Licence to Transport Special Waste Under Provisions of the Waste Management Act.
- Licence to Transport Special Waste.
- Application for a Permit Under the Provisions of the Waste Management Act (Special Wastes).
- BC Environment, Lands and Parks. Environmental Protection Program. Appendix to Permit No._____(Special Waste).
- Application for a Change in Requirements

APPENDIX C: APPLICATION AND PERMIT FORMS

Initial Generator Registration

LOGO Province of British Columbia Ministry of Environment, Lands and Parks

Initial Generator Registration

Form 1A
Under the authority of the
Special Waste Regulation
Schedule 5, Section 43

SECTION 1	GENERATOR IDENTIFICATION				
Company Name					
Mailing Address					
	PO Box or Street	City	Prov	Country	Postal Code

SECTION 2	SPECIAL WASTE DESCRIPTION							
	Waste Identification			Quantity				
Physical State	Name of Waste	PIN	TDG Class	Now in Storage	Produced/ 30-day Period	Units L/KG	Handling Code	Generation Code
a)								
b)								
c)								
d)								
e)								

SECTION 3	BUSINESS GENERATING SPECIAL WASTE				
3a	General Business Type				
3b	Source of Special Waste				
3c	Generation Site	BC			
		Address	City	Province	Postal Code
3d	Waste Managed By				
3d	Management Site				
		Address	City	Province Country	Postal Code

SECTION 4	CERTIFICATION		
I CERTIFY THAT THE INFORMATION PROVIDED ON THIS FORM IS CORRECT AND COMPLETE.			
			( ) -
PRINT NAME	SIGNATURE	DATE (YY/MM/DD)	TELEPHONE NUMBER

FOR MINISTRY USE ONLY																		
REGIONS	LM		VI		TN		CA		OP		OK		SK		KO			
LATITUDE:	DEG		MIN		SEC		LONGITUDE:	DEG		MIN		SEC						
SPWASTE:	ENTRY#		DATE			DETAILS												
SPCW:	ENTRY#		DATE			DETAILS												
SIC CODE			BCG#															

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ORCS 86200-01

APPENDIX C: APPLICATION AND PERMIT FORMS

Generator Registration Update

LOGO Province of British Columbia

Ministry of Environment, Lands and Parks

Generator Registration Update
Form 1B
Under the authority of the
Special Waste Regulation
Schedule 5, Section 43

This form replaces/renews/updates the following special waste information reported on the previous Generator Registration Report:

DATED: (YY/MM/DD)		BY:		for BCG#	

SECTION 1. GENERATOR IDENTIFICATION

Company Name					
Mailing Address					
	PO Box or Street	City	Prov	Country	Postal Code

SECTION 2 SPECIAL WASTE DESCRIPTION

FORMER	Waste Identification			Quantity				
Physical State	Name of Waste	PIN	TDG Class	Now in Storage	Produce/ 30-day Period	Units L/KG	Handling Code	Generation Code
a)								
b)								
c)								
d)								
e)								

PRESENT	Waste Identification			Quantity				
Physical State	Name of Waste	PIN	TDG Class	Now in Storage	Produce/ 30-day Period	Units L/KG	Handling Code	Generation Code
a)								
b)								
c)								
d)								
e)								

SECTION 3 BUSINESS GENERATING SPECIAL WASTE

3a	General Business Type		
3b	Source of Special Waste		
3c	Generation Site	FORMER	Address City Province Postal Code
		PRESENT	Address City Province Postal Code
3d	Management Company Name		
	Management Site	FORMER	Address City Province Postal Code
		PRESENT	Address City Province Postal Code

SECTION 4 CERTIFICATION

I CERTIFY THAT THE INFORMATION PROVIDED ON THIS FORM IS CORRECT AND COMPLETE.

PRINT NAME	SIGNATURE	DATE (YY/MM/DD)	( ) TELEPHONE NUMBER

FOR MINISTRY USE ONLY

REGIONS: LM | N | TN | SA | OP | NR | SC | NB

LATITUDE: DEG | MIN | SEC LONGITUDE: DEG | MIN | SEC

SUPPLEMENTARY REPORT						ARCHIVE REPORT					
[illegible]		[illegible]				[illegible]		[illegible]			
[illegible]		DATE		INITIALS		[illegible]		DATE		INITIALS	
[illegible]		DATE		INITIALS		[illegible]		DATE		INITIALS	
[illegible]		YES		NO		[illegible]		YES		NO	
[illegible]						[illegible]					

SIC CODE		BCG#	

ENVIL/P 0012 (94/02)

OSCS [illegible]

APPENDIX C: APPLICATION AND PERMIT FORMS

Manifest Form

MANIFEST–MANIFESTE

THIS MANIFEST CONFORMS TO ALL FEDERAL AND PROVINCIAL TRANSPORT AND ENVIRONMENTAL LEGISLATION REQUIRING MANIFESTING

CE MANIFESTE EST CONFORME AUX LÉGISLATIONS FÉDÉRALE ET PROVINCIALE SUR L'ENVIRONNEMENT ET LE TRANSPORT, REQUÉRANT UN MANIFESTE

Manifest Reference No / N° de référence du manifeste

Reference No.'s of Other Manifest(s) used / N°'s de références des autres manifestes utilisés

A CONSIGNOR (GENERATOR) / EXPEDITEUR (PRODUCTEUR) — Provincial ID No. - N° d'id. provincial

Company Name - Nom de l'entreprise

Mailing Address-Adresse postale - City - Ville — Prov — Postal Code - Code postal

Shipping site Address - Origine de l'expédition

City - Ville — Prov — Postal Code - Code postal

Intended Consignee - Destinataire prévu — Provincial ID No. - N° d'id. provincial

Address - Adresse — City - Ville — Prov — Postal Code - Code postal

Receiving Site Address - Destination de l'expédition

City - Ville — Prov — Postal Code - Code postal

B CARRIER / TRANSPORTEUR — Provincial ID No. - N° d'id. provincial

Company Name - Nom de l'entreprise

Address - Adresse

City - Ville — Prov — Postal Code - Code postal

	Registration No. - N° d'immatriculation	Prov
Vehicle - Véhicule		
Trailer/Rail Car No. 1 - 1er remorque - wagon		
Trailer/Rail Car No. 2 - 2e remorque - wagon		

Point of Entry / Point d'entrée — Point of Exit / Point de sortie

Carrier Certification - I declare that I have received wastes as offered by the consignor in Part A for delivery to the intended consignee and that the information contained in Part B is complete and correct. Déclaration du transporteur - J'atteste avoir reçu les déchets offerts par l'expéditeur dans la partie A en vue de leur livraison au destinataire choisi et que les renseignements inscrits à la partie B sont exacts et complets.

Yr - An — Mon - Mois — Day - Jour — Name of authorized person (print) / Nom de l'agent autorisé (caractères d'imprimerie)

Signature — Tel. No. (Area Code) - N° de tél. (ind. rég.)

C CONSIGNEE (RECEIVER) / DESTINATAIRE (RÉCEPTIONNAIRE) — Provincial ID No. - N° d'id. provincial

Consignee information same as in Part A / L'information à fournir par le destinataire est la même qu'en A ☐

IF NOT, COMPLETE SHADED AREA – SINON, REMPLIR L'ESPACE OMBRAGÉ

Company Name - Nom de l'entreprise

Address - Adresse

City - Ville — Prov — Postal Code - Code postal

Receiving Site Address - Destination de l'expédition

City - Ville — Prov — Postal Code - Code postal

Date Received - Date de réception: Yr - An — Mon - mois — Day - Jour — Time - Heure ☐ A.M. ☐ P.M.

Physical State / État physique	Shipping Name of Waste / Appellation réglementaire du déchet	Waste Identification / Identification du déchet: N° Provincial No. (Quebec - Ontario only) (Québec - Ontario seul)	TDGA/PIN LTMD/NIP	Quantity Shipped / Quantité expédiée	Units L or/ou kg Unités	Classification	Packing Group / Groupe d'emballage	Packaging Contenants: No. / N°**	Codes int. ext.	Quantity Received / Quantité reçu	Units L or/ou kg Unités	Identify Any Shipment Discrepancy / Problems. Attach Addendum if Necessary / Indiquer toute différence relative à l'expédition. Annexer une feuille au besoin	Handling Code / Code de manutention	Decontamination / Décontamination: Packaging Contenants Yes / Oui	No / Non	Vehicle / Véhicule Yes / Oui	No / Non

Special Handling/Emergency Instructions / Manutention spéciale/Instructions d'urgence — Attached / Ci-jointes ☐ — Below / Ci-dessous ☐

Circulation No. - Quebec only / N° de circulation - Réservée au Québec

If Handling Code "Other" (Specify) / Si code de manutention "divers", spécifier

If waste to be transferred specify intended company name / Si les déchets doivent être transférés, préciser le nom du destinataire — Provincial ID No. - N° d'id. provincial

Address - Adresse — City - Ville — Prov

Date Shipped - Date d'expédition: Yr - An — Mon - Mois — Day - Jour — Time - Heure ☐ A.M. ☐ P.M.

Scheduled Arrival Date/Date d'arrivée prévue: Yr - An — Mon - mois — Day - Jour

Consignee Certification - I declare that the information contained in Part C is correct and complete. Déclaration du destinataire - Je déclare que tous les renseignements à la partie C sont véridiques et complets.

Consignor Certification - I declare that the information contained in Part A is correct and complete. Déclaration de l'expéditeur - Je déclare que tous les renseignements à la partie A sont véridiques et complets.

Name of authorized Person (print) / Nom de l'agent autorisé (caractères d'imprimerie) — Signature — Tel. No. (Area Code) - N° de tél. (ind. rég.)

Name of authorized Person (print) - Nom de l'agent autorisé (caractères d'imprimerie)

Signature — Tel. No. (Area Code) - N° de tél. (ind. rég.)

APPENDIX C: APPLICATION AND PERMIT FORMS

Multiple Consignors Form

LOGO Province of British Columbia

Ministry of Environment, Lands and Parks

Manifest Supplement
Multiple Consignors

Form 3
Under the authority of the
Special Waste Regulation
Schedule 5, Section 47

COLLECTION POINT INFORMATION:

Waste Name	TDG Class	TDG/PIN	Reference Manifest Number

Name	Address	City	Postal Code	Telephone	Consignor ID #	Consignor's Signature	Quantity Kg/L	Cumulative Total, Kg/L
1.								
2.								
3								
.4								
.5								
.6								
7.								
8.								
9.								
10.							TOTAL:	

CARRIER INFORMATION:

Carrier's Company Name:		Vehicle Licence Plate No.:	
Driver's Name:		Driver's Signature:	
DATE: (YY/MM/DD)			

INSTRUCTIONS: The Carrier Shall

(a) complete this form;
(b) keep this form with the manifest;

(c) when the shipment has been completed:
. Attach Copy A to Copy 1 of Manifest and mail to the appropriate authority in the jurisdiction where consignor is located,
. Attach Copy B to Copy 2 of Manifest and retain,
. Attach Copy C to Copy 5 of Manifest and deliver to consignee.

ENV/L/P 0014 (04/92)

ORCS 66300-20

Multiple Carriers Form

LOGO Province of British Columbia

Ministry of Environment, Lands and Parks

Manifest Supplement

Multiple Carriers
Form 5
Under the authority of the
Special Waste Regulation
Schedule 5, Section 47.1

CONDITIONS: This form can only be used as an attachment to a SPECIAL WASTE MANIFEST under the following conditions:

(a) There is only one Consignor (Generator) and only one Consignee (Receiver) for the shipment described on the referenced manifest.
(b) There are no additions to or deletions of waste from the consignment after the shipment leaves the consignor's site.
(c) This form must be attached to the Reference Manifest and must be in the vehicle when the shipment is being transported.

CONSIGNOR						REFERENCE MANIFEST NO		
Carrier Name	Carrier LT#	Vehicle Registration (Lic. Plate No.)	Province or State	Date Carried: Start (YY.MM.DD)	Date Carried: Finish (YY.MM.DD)	Shipping Locations: From	Shipping Locations: To	Carriers Signature

I certify the above shipments have been made in compliance with the Special Waste Regulation.

Consignor Contact Name (Please Print)	Signature	Telephone Number	FAX Number	Date (YY/MM/DD)

INSTRUCTIONS: When the shipment has been completed the Consignee (Receiver):

- Attaches Copy A to Copy 3 of Manifest and mails to the appropriate authority in the jurisdiction where consignee is located.
- Attaches copies of Copy B to copies of Copy 4 of Manifest and returns to each Carrier.
- Attaches Copy C to Copy 5 of Manifest and retains for 2 years.
- Attaches Copy D to Copy 6 of Manifest and mails to Consignor.

ENV/L/P 0015 (04/92)

ORCS 66506-20

Multiple Wastes Form

LOGO

Province of British Columbia

Ministry of Environment, Lands and Parks

Manifest Supplement
Multiple Different Wastes

Form 6
Under the authority of the
Special Waste Regulation
Schedule 5, Section 47.2

CONDITIONS:

This form can only be used as an attachment to a SPECIAL WASTE MANIFEST under the following conditions:

(a) There is only one consignor (Generator) and only one Consignee (Receiver) for all of the waste listed on the referenced manifest and on this form.
(b) There are no additions or deletions of waste from the consignment after the shipment leaves the consignor's site.
(c) The form must be attached to the reference manifest and must be in the vehicle when the shipment is being transported.

CONSIGNOR:		REFERENCE MANIFEST NUMBER:	

Physical State	Shipping Name of Waste	TDGA/PIN	Quantity Shipped	Units L/KG	Class	Packing Group	Packaging		Quantity Received	Units L/KG	Shipment Discrepancy*	Handling Code	Decontamination			
													Packaging/ Container		Vehicle	
							No.	Codes					YES	NO	YES	NO

I certify the above shipments have been made in compliance with the Special Waste Regulation.

Consignor Contact Name (Please Print)	Signature	Telephone Number	FAX Number	Date (YY/MM/DD)

INSTRUCTIONS: When the shipment has been completed the Consignee (Receiver):

. Attaches Copy A to Copy 3 of Manifest and mails to the appropriate authority in the jurisdiction where Consignee is located.
. Attaches Copy B to Copy 4 of Manifest and returns to Carrier.
. Attaches Copy C to Copy 5 of Manifest and retains for 2 years.
. Attaches Copy D to Copy 6 of Manifest and mails to Consignor.

*Identify any shipment discrepancy. Attach Addendum if necessary

ENV/L/P 0016 (04/92)

ORCS 66200-20

APPENDIX C: APPLICATION AND PERMIT FORMS

Notification Form

SCHEDULE IV
(Sections 4.20.1 and 4.20.2)
FORM 2

NOTIFICATION
PRÉAVIS

ANNEXE IV
(Articles 4.20.1 et 4.20.2)
FORMULE 2

CONSIGNOR (GENERATOR)
EXPEDITEUR (PRODUCTEUR)

Provincial ID No. - N° d'id. provincial

Company Name - Nom de l'entreprise

Tel. No. (Area Code)
N° de tél. (Ind. rég.)

Mailing Address
Adresse postale

City - Ville | Prov. | Postal Code - Code postal

Shipping Site Address - Adresse du lieu d'expédition

City - Ville | Prov. | Postal Code - Code postal

CONSIGNEE (RECEIVER)
DESTINATAIRE (RECEPTIONNAIRE)

Provincial ID No. - N° d'id. provincial

Address - Adresse | City - Ville | Prov. | Postal Code - Code postal

Receiving Site Address - Adresse du lieu de destination

City - Ville | Prov. | Postal Code - Code postal

Notification Reference No.
N° de référence
27008

Shaded areas are for interprovincial waste PCB shipments only.
Espaces ombragés sont réservés aux envois interprovinlaux de déchets de PCB seulement.

CARRIER
TRANSPORTEUR

Modes of Transport
Modes de transport

Provincial ID No. - N° d'id. provincial

Company Name - Nom de l'entreprise

Tel. No. (Area Code) -
N° de tél. (Ind. rég.)

Address - Adresse

City - Ville | Prov. | Postal Code - Code postal

Length of Stay in Transit Country(ies):
Durée du séjour dans les pays de transit:

Handling Method in Transit Country(ies):
Méthode de manutention dans les pays de transit:

METHODS OF DISPOSAL - MÉTHODES D'ÉLIMINATION 1) 2) 3) 4)

First Shipment - Premier envoi						Province(s) or Country(ies) of Transit Province(s) ou pays traversé(e)(es)(s)	Point of Entry or Exit Port d'entrée ou de sortie	Highway Used Route utilisée PCB only - PCB seul.
Date of Departure - Date de départ			Estimated Date of Arrival - Date d'arrivée prévue					
Yr. - An	Mo. - Mois	Day - Jour	Yr. - An.	Mo. - Mois	Day - Jour			

Multiple Shipments: Including _____ shipments to be completed by: _____ (Y/M/D) with a total quantity of: _____ L or _____ kg.

Envois multiples: Nombre d'envois _____ à être transportés pour le _____ (A/M/J) d'une quantité totale de: _____ L ou _____ kg.

Shipping Name of Waste Appellation réglementaire du déchet	Waste Identification Identification du déchet		Quantity per Shipment Quantité par envoi	Units L or / ou kg Unités	Classification	Packing Group Groupe d'emballage	PCB - only PCB - seul.		Packaging/Container Emballage/Conteneur	
	N° Provincial No. (Québec - Ontario only - seulement)	TDG/PIN TMD/NIP					Concentration	Units (specify) Unités (préciser)	Number Nombre	Codes int. ext.
1)										
2)										
3)										
4)										

Special Handling / Emergency Instructions
Manutention spéciale / Instructions d'urgence

Attached
Annexées ☐

Below
Ci-dessous ☐

Consignor / Consignee Certification: I declare that arrangements have been made to receive and dispose of the consignment of waste.
Déclaration de l'expéditeur / destinataire: Je déclare que des dispositions ont été prises pour la réception et l'élimination de l'envoi de déchets.

Name of authorized Person (print) - Nom de l'agent autorisé
(caractères d'imprimerie)

Signature

Date
Yr. - An. | Mo. - Mois | Day - Jour

Copy 1 (white) - Transport Canada for Inter-Provincial Consignment (PCB)
Transport Canada for International and Transborder Consignment(s)

Copie 1 (blanche) - Transports Canada, envoi inter-provincial (BPC)
Transports Canada, envoi(s) international(aux) et transfrontalier(s)

APPENDIX C: APPLICATION AND PERMIT FORMS

Application for a Licence to Transport Special Waste

LOGO Province of British Columbia — Ministry of Environment, Lands and Parks

Application for a Licence to Transport Special Waste
Under the Provisions of the Waste Management Act
Form 2
Under the authority of
Special Waste Regulation
Schedule 5, Section 45

FILE NO. (office use only)	

SECTION 1.	TRANSPORTER IDENTIFICATION				
Company Name	I/We,				
Postal Mailing Address	PO Box or Street	City	Province	Country	Postal Code
hereby apply for: (check one)	☐ a licence to transport special waste within the Province of British Columbia.				
	☐ a revision of Licence Number LT _____				
	☐ a renewal of Licence Number LT _____				

SECTION 2	SPECIAL WASTE TYPE				
This undertaking relates to the transportation of:					
☐	BIOMEDICAL WASTES	☐	INORGANIC WASTES	☐	WASTE BATTERIES
☐	CONTAMINATED SOIL	☐	LAB PACKS	☐	WASTE PESTICIDES
☐	CORROSIVE WASTES	☐	PAINT WASTE	☐	WASTE PETROLEUM PRODUCTS
☐	DRY CLEANING WASTES	☐	WASTE ASBESTOS	☐	WASTE SOLVENTS
☐	PCB's	☐	OTHER (PLEASE SPECIFY)		
by vehicles dispatched from an operation located at:					
DISPATCH ADDRESS:	STREET	CITY	PROVINCE	POSTAL CODE	

SECTION 3	VEHICLE LIST				
Vehicle Year and Make	Licence Plate	Prov/State	Net Load Capacity	Load Type	Liability Insurance Coverage
a)					
b)					
c)					
d)					
e)					
f)					
g)					
h)					

SECTION 4	INSURANCE
Liability Insurance provided by:	
is carried by the applicant on each vehicle.	

SECTION 5	CERTIFICATION
I, (PRINT NAME), certify that I am	
aware of the requirements of the Special Waste Regulation as related to the transportation of special waste.	
PRINT name of applicant	SIGNATURE of applicant
Date of Application	Telephone Number

Return completed application forms with a copy of proof of insurance and vehicle registration to:

Director of Waste Management
777 Broughton Street
Victoria, B.C.
V8V 1X5

FOR OFFICE USE ONLY

REGION	LM		VI		TN		CA		OP		OK		SK		KO	

ENV/OP 5013 (04/92) ORCS 66800-20

APPENDIX C: APPLICATION AND PERMIT FORMS

Sample of a Special Waste Transport Licence

PROVINCE OF BRITISH COLUMBIA **MINISTRY OF ENVIRONMENT**

LICENCE TO TRANSPORT SPECIAL WASTE
LT_____

Under the Provisions of the Waste Management Act

(Company Name)

is authorized to transport Special Waste within
the Province of British Columbia

The authorized vehicles, their respective maximum loads, and the minimum amount of liability insurance to be maintained on each vehicle are described as follows:

VEHICLE	LICENCE	MAXIMUM LOAD	TYPE	INSURANCE

SAMPLE ONLY

THIS LICENCE AUTHORIZES THE CARRIER TO TRANSPORT
THE FOLLOWING TYPES OF SPECIAL WASTE:

(Authorized waste listed)

*Where there is a need to use a vehicle(s) not authorized by this licence, the Director or his designate must b notified of the description of the vehicle, the licence number, load type, insurance and duration of us Notification may be made by telephoning (604) 387-2049 (or 1-800-663-3456 after business hours). In the even that duration of use of such vehicle(s) is for a period greater than 60 days, a new licence will be required.

*Whenever there are substantial changes from information supplied in the last licence application including change of address, additions to or deletions from the list of vehicles used to transport special wastes, or change in insurance coverage, an amendment to the licence must be obtained no later than 60 days after the change.

Deputy Director of
Waste Management

DATE ISSUED:
EXPIRY DATE:

APPENDIX C: APPLICATION AND PERMIT FORMS

Application for a Permit Form

Province of British Columbia | Ministry of Environment | WASTE MANAGEMENT BRANCH

Waste Management File No.

APPLICATION FOR A PERMIT UNDER THE PROVISIONS OF THE WASTE MANAGEMENT ACT (Special Wastes)

THIS APPLICATION is to be filed with the Regional Waste Manager at _____

_____ (Regional Office address), British Columbia _____ (Postal Code)

"Any person who may be adversely affected by the discharge or storage of the waste may within 30 days from the last date of posting under section 3 (a) or publication, service or display under section 4, write to the manager stating how he is affected."

PREAMBLE — The purpose of this application is _____

1. I/We _____ (Full name, or if a company, British Columbia registered name)

   of _____ (Address, or if a company, British Columbia registered address)

   hereby apply for a permit to store special waste from _____ (General source of special waste)

   located at _____ (General location of source)

   and give notice of application to all persons affected.

2. The special waste storage site will be located at _____ (Give legal description)

   which is at _____ (Give address or describe location relative to some commonly known point)

3. The composition and quantity of special waste(s) to be stored is:

Substance(s) (as specified in the Special Waste Regulations)	Maximum concentration of substance in special waste (g/kg)	Maximum quantity of special waste to be stored (kg)

(Continue on reverse side if necessary)

4. The period during which the special waste will be stored will be _____ (Number of days, months, years, or permanent)

5. The method(s) to be used to store the special waste will be _____ (Give description of containers, buildings, or other facilities)

6. Dated this _____ day of _____, 19__

   _____ (PRINT name of applicant or agent) _____ (Signature of applicant or agent)

   Telephone No. _____ Contact person _____

A copy of this application was posted at the site in accordance with the Waste Management Regulations on _____ (Date)

ENV 1000 ss

ADDITIONAL INFORMATION

1. The geographic area to be served
2. Estimated service life of the special waste storage site is
3. Site acquisition (check appropriate block)
   - ☐ Owned by applicant
   - ☐ Owned by others (specify)
4. The special waste storage site is located approximately:
   - (a) _____ metres from the nearest watercourse;
   - (b) _____ metres from the nearest domestic or irrigation water well or reservoir;
   - (c) _____ metres from the nearest dwelling, serviced lot or recreational area.
5. The depth to the highest recorded water table at the bottom of the special waste storage site is _____ metres.
6. A description of a typical soil profile to a depth of 5 metres at the special waste storage site is as follows

PUBLISHING ARRANGEMENTS

Publishing of this Permit Application will be required under section 2 of the Waste Management Regulations. If requested, Ministry staff will arrange for publication of the application. While there is no charge for this service, you will be responsible for expenses incurred in publishing the application in local newspapers. The undersigned applicant:

☐ will arrange for publication ☐ requests that the Ministry arrange for publication

(Print name of applicant or agent) (Signature of applicant or agent)

WASTE MANAGEMENT APPLICATION FEE INFORMATION

Industry type

Industry code Capacity*

Fee

Payment Date

(Applicant) (Ministry representative)

* CAPACITY means actual production or processing capacity of the works, unless otherwise specified

AGENT AUTHORIZATION

In order to assist in processing your application, your advice is requested as to whether you wish us to deal with you directly or through an agent. If you elect to appoint an agent, please complete the following.

I/We hereby authorize _____
to deal with you directly on all aspects of the subject permit/amendment.

(Date) (Signature of applicant)

Appendix to a Permit

MINISTRY OF ENVIRONMENT

WASTE MANAGEMENT BRANCH

APPENDIX _____

to Permit No. _____
(Special Waste)

(a) The source of the special waste(s) to which this appendix is applicable is _____

_____

_____

(b) The quantity of special waste which may be stored is limited as follows:

Substance(s) (as specified in the Special Waste Regulations)	Maximum concentration of substance in special waste (g/kg)	Maximum quantity of special waste to be stored (kg)

(c) The works authorized are _____

_____

_____

approximately located as shown on the attached Appendix _____.

(d) The land on which the above special waste is stored and to which this appendix is appurtenant is _____

_____

(e) The works authorized must be complete and in operation _____

_____

Date issued _____, 19____.

Date amended _____, 19____.

_____, 19____.

_____, 19____.

ENV 2104

APPENDIX C: APPLICATION AND PERMIT FORMS

Application for a Change in Requirements

LOGO Province of British Columbia — Ministry of Environment, Lands and Parks

Application for a Change in Requirements of the Special Waste Regulation Form 4
Under the authority of the Special Waste Regulation Schedule 6, Section 51

FILE NO.	

Notice: A person who may be adversely affected by a change in requirements of the Special Waste Regulation may, within 30 days from the last date of publishing, write to the Regional Waste Manager at _____ stating how the person is affected by the change.

1. I/We, _____
   of _____
   (address) _____

hereby apply for a change in requirements of the Special Waste Regulation.

2. The special waste for which this application is made is from _____
   (Describe the process or operation which generated or is generating the special waste.)

3. The Characteristics of the special waste are as follows: _____
   (Describe special waste characteristics. Attach documents as necessary)

4. The amount or generation rate of special waste is _____
   (Give total volume or rate of waste generation over a specific time period.)

5. The special waste is: (give location or process for each as appropriate)
   - generated at:
   - stored at:
   - treated at:
   - disposed of at:

6. The special waste is processed or treated by: _____

7. Application is made to change the requirements of section(s): _____
   of the Special Waste Regulation because: _____
   (State reasons for change)

8. The proposed changes are summarized as follows:
   (a) Before: _____
   (b) After: _____

9. On _____, 19 _____
   a copy of this application was posted at or near the point where the special waste is produced or managed.

10. Dated this _____ day of _____, 19 _____

(PRINT name of applicant or agent)	(Signature of applicant or agent)	(Telephone No.)

ENVIL/P 0019 (04/92) ORCS 66000-01

(REVERSE)

LOGO Province of British Columbia — Ministry of Environment, Lands and Parks

Application for a Change in Requirements of the Special Waste Regulation Form 4
Under the authority of the Special Waste Regulation Schedule 6, Section 51

ADDITIONAL INFORMATION

In support of this application the following data is considered relevant: _____

List reports, references or data: _____

PUBLISHING ARRANGEMENTS

If publishing of this Permit application is required, Ministry staff can arrange for publication of the application. While there is no charge for this service, you will be responsible for expenses incurred in publishing the application in local newspapers.

The undersigned applicant: ☐ will arrange for publication ☐ requests that the Ministry arrange for publication

PRINT name of applicant or agent	SIGNATURE of applicant or agent

AGENT AUTHORIZATION

In order to assist in processing your application, your advice is requested as to whether you wish us to deal with your directly or through an agent. If you elect to appoint an agent, please complete the following:

I/We hereby authorize: (PRINT or TYPE name of agent) _____
to deal with you directly on all aspects of the subject permit/amendment.

Date	Signature of applicant

ENVIL/P 0019 (04/92) ORCS 66000-01

APPENDIX D: TRANSPORTATION OF DANGEROUS GOODS WASTE CLASSIFICATION GUIDE

A. Overview of Transportation of Dangerous Goods Classification

The Transportation of Dangerous Goods (TDG) Regulations divide all possible goods including wastes, into two groups: those which are dangerous goods, and those which are not (non-dangerous goods). Dangerous goods are those goods which meet or exceed one or more, of a number of criteria based on properties, or composition of the goods.

Depending on which criteria are exceeded, goods are placed in one of nine classes, which may in turn be further divided into divisions and packing groups. The criteria against which the properties or composition of goods are evaluated, are therefore called classification criteria. Table 18 summarizes the classes and divisions into which dangerous goods are divided.

If more than one criterion is exceeded, it is necessary to establish which is the "primary" or most important classification, using rules of precedence. The precedence between classes 3, 4, 5.1, 6.1 and 8 is summarized in Table 19. If more than two criteria are exceeded, the precedence of every possible combination of classifications needs to be determined to arrive at the overall primary classification and the most important subsidiary classification.

A limited number of goods, although dangerous (i.e. exceeding some classification criteria), are removed from regulation by specific exemption. Examples of such goods listed in Part II of the TDG Regulations are: household garbage and sewage, medical articles for personal use, some dilute acetic acid solutions, etc.

A significant number of specifically identified dangerous goods (e.g. Acetone; Batteries, wet filled with acid; Nicotine; etc) have been pre-assigned to their appropriate classes, divisions and packing groups based on the classification criteria. These are referred to as "specified" goods, and their "shipping names" are listed in lower case letters in Schedule II of the TDG Regulations. It should be noted that the shipping names of some specified goods are still generic in nature (e.g. Infectious substances, affecting humans, n.o.s.*; Radioactive material, n.o.s.*; Hypochlorite solutions; etc.). Included as specified goods, are a number of waste streams originating from various industrial processes, which are listed and described as "Waste Type 1" through "Waste Type 100".

While classification of specified goods can generally be done without recourse to testing, this may not be the case with wastes. Because wastes are seldom pure, testing may be required for such purposes as: to confirm that a specified waste meets the description of a single specified dangerous good; to determine the proportion of a dangerous good in a mixture, or; to check that classification criteria are still exceeded for a diluted waste.

Other dangerous goods which have not been specifically identified, are referred to as "not fully specified" dangerous goods (e.g. ARSENICAL PESTICIDES, LIQUID, TOXIC, N.O.S*; CORROSIVE LIQUIDS, POISONOUS, N.O.S.*; INK; etc). Their shipping names are listed in upper case letters in Schedule II of the TDG Regulations, and also in Table 20 of this Appendix. It should be noted that the difference between specified and not fully specified goods is based purely on whether the shipping name is in lower or upper case letters. Not fully specified wastes are shown in this Appendix, in upper case letters to emphasize this difference. Determination of any properties likely to exceed classification criteria is required prior to classification. These criteria include the presence of substances having a 9.2 classification or leachable constituents at greater than specified levels. For PCBs the specified level is 50 ppm by weight; for most other substances having a 9.2 classification, the level is 100 ppm by weight; other levels may apply for substances regulated under the Food and Drugs Act, the Feeds Act, or the Environmental Contaminants Act. For leachable constituents the maximum allowable TDG leachate concentrations are given in Table 21.

Not fully specified goods are classified by selecting the shipping name from Table 20, which most accurately describes the goods, <u>and</u> for which the associated classifications are applicable. For example, selection of WOOD PRESERVATIVES, LIQUID, is <u>not</u> correct for a non-flammable wood preservative solution, because the associated classification for this shipping name indicates a flammable liquid.

Non-dangerous goods then, are only those goods which do not exceed <u>any</u> of the classification criteria.

APPENDIX D TRANSPORTATION OF DANGEROUS GOODS WASTE CLASSIFICATION GUIDE

Wastes which are not regulated by the TDG Regulations are therefore wastes which are either non-dangerous goods (e.g. uncontaminated high flash point waste oil - regulated by the Special Waste Regulation), or which are specifically exempt from regulation (e.g. household sewage - not regulated by either the TDG Regulations or the Special Waste Regulation).

B. Procedure for TDG Classification of Hazardous Wastes

In every case, the final authority on classification is the TDG Act and Regulations. However this guide may be of assistance by providing a procedure illustrated with examples of particular relevance to waste classification.

The starting point for classification is a good characterization of waste composition. The origin of a waste and whether it is fully specified or not, will usually determine how much further testing may be required. As classification is performed, additional testing may be necessary to confirm whether or not particular criteria are exceeded.

Using a current revision of the TDG Regulations, proceed as follows:

1. Check Part I to establish all relevant definitions.

2. Check Part II to see whether there is a specific exemption for the substance causing the waste to be classified.

   Some examples of substances exempt from regulation, are the following:

   - acetic acid in concentration not greater than 10 per cent by mass,
   - hydrogen peroxide, aqueous solutions with less than 8 per cent hydrogen peroxide,
   - asbestos that is immersed or fixed in a natural or artificial binder material, or included in a manufactured product,
   - formaldehyde solutions with less than 0.5 per cent formaldehyde by mass.

   If the substance causing the waste to be classified is exempt, it is still necessary to check that there are no other constituents which are dangerous goods, substances having a 9.2 classification or which would cause the maximum allowable TDG leachate concentrations to be exceeded.

3. Search the "fully specified" dangerous goods in Lists I and II of Schedule II (those goods with shipping names appearing in lower case letters), for any constituents of the waste. Note that there may be a variety of names for some goods, and so a sequential alphabetic search is recommended. For example, oily rags are listed as, but not cross-referenced to, "Rags, oily"; similarly, sodium hypochlorite solution is listed as "Hypochlorite solutions". Determine if the waste is:

   a. A fully specified "Waste Type" (listed at the beginning of the W's in an alphabetical listing of List II of Schedule II). Further testing to confirm that the associated classification criteria are exceeded, will not usually be required. Note that to qualify as one of these waste types, the waste must be from an industrial process, as specified or implied by the description in italics. For example, inert absorbent containing xylene and ethylbenzene, is not classified as Waste Type 3, because it does not originate from a process, and because the implied recovery of these solvents is not likely.

      The shipping name of such wastes is "Waste Type *XX*", where *XX* is the number of the waste type. The classification is as given in the corresponding location in Column III, and the packing group as given in Column VII.

      For example, the shipping name for spent pickle liquor from steel finishing operations is: Waste Type 81. The classification is: class 8, packing group II.

   b. A fully specified dangerous good.

      The shipping name of such wastes is "Waste *shipping name*", (or "*Shipping name*" if waste is already part of the shipping name) where *shipping name* is the shipping name of the fully specified

dangerous good. If the shipping name ends with the abbreviation "n.o.s." in roman (upright) type, the technical name of the substance causing the waste to be classified is appended in parentheses after "n.o.s.". The classification is as given in the corresponding location in Column III, and the packing group as given in Column VII.

For example, the shipping name for lead-acid batteries that are waste is: Waste batteries, wet, filled with acid. The classification is: class 8, packing group III.

The shipping name for oily cotton waste is: Cotton waste, oily. The classification is: class 4, division 2, packing group III.

The shipping name for waste ammonium bisulphite solution is: Bisulphites, inorganic, aqueous solutions, n.o.s. (ammonium bisulphite). The classification is: class 8, subsidiary class 9 division 2, packing group III.

c. A mixture or solution of a single fully specified dangerous good with other non-dangerous goods, in sufficient concentration, that the mixture or solution still exceeds the classification criteria for the fully specified dangerous good. (Waste containing more than one fully specified dangerous good for which the classification criteria of classes 3, 4, 5, 6, or 8 are exceeded, are classified as not fully specified wastes.)

The shipping name of such wastes is "Waste *shipping name* solution" or "Waste *shipping name* mixture", as applicable. (If "waste", "solution" or "mixture" are already part of the shipping name, these are not added a second time.) The classification is as given in the corresponding location in Column III, and the packing group as given in Column VII.

For example, if a waste methanol solution is sufficiently concentrated that it exceeds both of the listed classifications for methanol, and still meets the criteria for packing group II, the shipping name is: Waste methanol solution. The classification is: class 3 division 2, subsidiary class 6 division 1, packing group II.

However, if a waste methanol solution is diluted such that the classification and/or packing group changes from that listed for methanol, this solution is classified as a not fully specified dangerous good, as described in step 4.

If any of the above classifications apply, the waste is a specified dangerous good, and is regulated for transport purposes. At this point the classification process is complete.

4. If the waste is not a "fully specified" waste (i.e. does not fit any of the descriptions of specified goods exactly) the waste properties must be evaluated to determine if it is a "not fully specified" waste in classes 3, 4, 6, or 8, or also possibly for aerosols, classes 2, 5, or 9.1. At this stage, testing or calculation of waste flammability, toxicity, infectiousness, and corrosiveness is required, unless these properties have been previously determined, or the waste is an aerosol. If the waste is an aerosol, determination of the properties required for classification in classes 2, and 5.1 is also required. Note that determination of properties required for classification in the correct packing group is required, both for transportation purposes, and to determine the precedence of classifications, if more than one classification applies.

If none of the criteria for classes 2, 3, 4, 5, 6, or 8 are exceeded, and the waste does not fit the description of an aerosol classified as 9.1, proceed to step 5.

If the criteria are exceeded for more than one classification, use Table 19 to determine which is the primary classification, and if there is more than one subsidiary classification, which of those has precedence. Having determined this information, search

List II of Schedule II a second time to find the shipping name of the not fully specified dangerous good that best describes the waste, and for which all of the associated classification criteria are exceeded (also listed in Table 20 for convenience). Note that classification as one of the not fully specified pesticide types requires that the specific pesticide be listed in Table I of TDG Schedule XIII. For example, only wastes containing Carbaryl, Carbofuran, Mercaptodimethur, or Mexacarbate may be classified as CARBAMATE DERIVATIVE PESTICIDES.

The shipping name of such wastes is "Waste *shipping name*". If the shipping name ends with the abbreviation "N.O.S.", or "*n.o.s.*" is appended, the technical name of the substance causing the waste to be classified is appended in parentheses after "N.O.S." or "*n.o.s.*". Where "*n.o.s.*" is in lower case and italicized, "*n.o.s.*" is not part of the shipping name. The classification, and packing group are as given in the corresponding locations in Columns III, and VII of List II of Schedule II, respectively.

For example, a waste liquid containing copper naphthenate and meeting only the criteria for toxicity and content of a substance having a 9.2 classification is: Waste COPPER BASED PESTICIDES, LIQUID, TOXIC, N.O.S. (copper naphthenate). The classification is: class 3 division 2, subsidiary class 9 division 2, packing group II or III as determined by the toxicity.

If any of the above classifications apply, the waste is a not fully specified dangerous good, and is regulated for transport purposes. At this point, the classification process is complete.

5. If the waste is neither a specified dangerous good, nor a not fully specified dangerous good exceeding any of the criteria for classes 2, 3, 4, 5, 6, or 8 in step 4, the waste needs to be checked for substances having a 9.2 classification, likely to be present at greater than specified levels. For PCBs the specified level is 50 ppm by weight; for most other substances having a 9.2 classification, the level is 100 ppm by weight; other levels may apply for substances regulated under the Food and Drugs Act, the Feeds Act, or the Environmental Contaminants Act.

The shipping name of such wastes is "Waste contaminated with *shipping name*, solution" or "Waste contaminated with *shipping name*, mixture", as applicable. (Again, "waste", "solution" or "mixture" are not added a second time, if they are already part of the shipping name.) The classification is class 9 division 2, with packing group III.

For example, for wood flour containing 1 000 ppm of sodium penta- and tetra-chlorophenates the shipping name is: Waste contaminated with sodium pentachlorophenate, mixture. The classification is: class 9 division 2, packing group III.

6. If none of the procedures in steps 3, 4, or 5 result in classification, the waste must be tested according to the leachate Extraction Procedure, CGSB provisional standard No. 164-GP-1 MP, Feb 1987 (Note: For wastes containing at least 0.5% of solids, the CSGB test procedure is the same as that specified in Schedule 4, Part 1 of the Special Waste Regulation. There are some differences in the allowable contaminants, and contaminant levels, as can be seen by comparing Table 3, page 14, and Table 21.) If the waste extract contains any of the leachable constituents in Table 21 in concentrations greater than those indicated, the waste is a leachable toxic waste for transportation purposes.

The shipping name of such wastes is "Leachable toxic waste (L*XX*)" where *XX* is the code number of the constituent(s) exceeding the TDG leachate criteria. The classification is class 9 division 2, with packing group III.

Table 18: SUMMARY OF HAZARD CLASSES AND DIVISIONS

Class	Division	Description
1 - Explosives	1.1	A substance or article with a mass explosion hazard.
	1.2	A substance with a fragment projection hazard, but not a mass explosion hazard.
	1.3	A substance with either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.
	1.4	A substance or article which presents no significant hazard. Explosion effects are largely confined to the package. No fragment projections of an appreciable size or range are to be expected.
	1.5	A very insensitive substance, although it has a mass explosion hazard as in 1.1.
2 - Gases	2.1	A flammable gas.
	2.2	A non-flammable, non-toxic, non-corrosive gas.
	2.3	A poisonous gas.
	2.4	A corrosive gas.
3 - Flammable Liquids	3.1	Extremely flammable liquid (flash point of less than -18°C).
	3.2	Very flammable liquid (flash point not less than -18°C, but less than 23°C).
	3.3	Moderately flammable liquid (flash point not less than 23°C but less than 61°C).
4 - Flammable Solids, Spontaneously Combustible and Dangerous When Wet	4.1	A solid which under normal circumstances is readily ignitable and burns persistently; or, which causes or contributes to fire, through friction or from heat retained from manufacturing or processing.
	4.2	A substance liable to spontaneous combustion under normal conditions of transport; or, when in contact with air, liable to spontaneous heating to the point where it ignites.
	4.3	A substance which, on contact with water, emits dangerous quantities of flammable gases or becomes spontaneously combustible on contact with water or water vapour.
5 - Oxidizing Substances & Organic Peroxides	5.1	A substance which contributes to the combustion of other material by yielding oxygen or oxidizing substances, whether or not the substance itself is combustible.
	5.2	An organic compound that contains the bivalent "-0-0-" structure which is a strong oxidizing agent and may be liable to explosive decomposition or is sensitive to heat, shock or friction.
6 - Poisonous & Infectious Substances	6.1	A solid or liquid that is poisonous through inhalation, by skin contact or ingestion.
	6.2	Organisms that are reasonably believed to be infectious to humans or animals and the toxins of such organisms.
7 - Radioactive Materials		Radioactive materials with activity greater than 74 kBq/kg, within the meaning of the Atomic Energy Control Act.
8 - Corrosive Substances		A substance that causes visible necrosis of the skin or that corrodes steel or non-clad aluminum, or that has a pH less than 2 or greater than 12.5.
9 - Miscellaneous Dangerous Goods	9.1	A substance or product which presents sufficient dangers to warrant regulation, but which cannot be assigned to any other class.
	9.2	An environmentally hazardous substance.
	9.3	Leachable toxic products or substances.

Table 19: TABLE OF PRECEDENCE OF CLASSIFICATION

CLASSIFICATION/PACKING GROUP

COL. I			COL. II	COL. III	COL. IV	COL. V	COL. VI	COL. VII	COL. VIII	COL. IX	COL. X	COL. XI	COL. XII	COL. XIII	COL. XIV	COL. XV	COL. XVI	COL. XVII
CLASSIFICATION/ PACKING GROUP			4.2 I or II	4.3 I or II	5.1 I	5.1 II	5.1 III	6.1 I	6.1 I (I)	6.1 I (D)	6.1 II (O)	6.1 III	8 I (L)	8 I (S)	8 II (L)	8 II (S)	8 III (L)	8 III (S)
3	I		4.2	4.3	3	3	3	6.1	3	3	3	3	3	-	3	-	3	-
3	II		4.2	4.3	3	3	3	6.1	3	3	3	3	8	-	3	-	3	-
3	III		4.2	4.3	3	3	3	6.1	6.1	6.1	6.1	3	8	-	8	-	3	-
4.1	I		4.2	4.3	4.1	4.1	4.1	6.1	6.1	4.1	4.1	4.1	-	4.1	-	4.1	-	4.1
4.1	II		4.2	4.3	4.1	4.1	4.1	6.1	6.1	6.1	4.1	4.1	-	4.1	-	4.1	-	4.1
4.1	III		4.2	4.3	4.1	4.1	4.1	6.1	6.1	6.1	6.1	6.1	-	8	-	8	-	4.1
4.2	I		-	4.2	4.2	4.2	4.2	6.1	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
4.2	II		-	4.2	4.2	4.2	4.2	6.1	6.1	4.2	4.2	4.2	4.2	8	4.2	4.2	4.2	4.2
4.2	III		-	4.3	5.1	5.1	4.2	6.1	6.1	6.1	6.1	6.1	8	8	8	8	4.2	4.2
4.3	I		4.2	-	5.1	4.3	4.3	6.1	6.1	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
4.3	II		4.2	-	5.1	4.3	4.3	6.1	6.1	4.3	4.3	4.3	8	8	4.3	4.3	4.3	4.3
4.3	III		4.3	-	5.1	5.1	4.3	6.1	6.1	6.1	6.1	6.1	8	8	8	8	4.3	4.3
5.1	I		4.2	4.3	-	-	-	6.1	6.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
5.1	II		4.2	4.3	-	-	-	6.1	6.1	5.1	5.1	5.1	8	8	5.1	5.1	5.1	5.1
5.1	III		4.2	4.3	-	-	-	6.1	6.1	6.1	6.1	6.1	8	8	8	8	5.1	5.1
6.1	I	(I)						-	-	-	-	-	6.1	6.1	6.1	6.1	6.1	6.1
	I	(D)						-	-	-	-	-	8	6.1	6.1	6.1	6.1	6.1
	I	(O)						-	-	-	-	-	8	6.1	6.1	6.1	6.1	6.1
	II	(I)						-	-	-	-	-	8	6.1	6.1	6.1	6.1	6.1
	II	(D)						-	-	-	-	-	8	6.1	8	6.1	6.1	6.1
	II	(O)						-	-	-	-	-	8	8	8	6.1	6.1	6.1
	III							-	-	-	-	-	8	8	8	8	8	8

(I) INHALATION TOXICITY
(D) DERMAL TOXICITY
(O) ORAL TOXICITY
(L) LIQUID
(S) SOLID
- AN IMPOSSIBLE COMBINATION

* Utilization of the Table:
Where dangerous goods have a classification and packing group set out in Column I, and classification and packing group set out in one of the headings of Columns II to XVII, the classification that takes precedence is the classification that is, at the same time, opposite the classification and packing group in Column I and under the classification and packing group set out in the heading referred to above.

Note:
This table is based on the United Nations precedence of Hazards Table. It is expected that amendments to the TDG Regulations will incorporate the criteria for the packing groups indicated in the table for classifications 4.1, 4.2, 4.3 and 5.1, as well as eliminating packing group I from classification 4.1.

Table 20: NOT FULLY SPECIFIED DANGEROUS GOODS
(EXCLUDING AEROSOLS)†

SHIPPING NAME	ASSOCIATED CLASSIFICATION(S)‡					
ADHESIVES		3.1	3.2	3.3		
ALCOHOLS, N.O.S.*		3.1	3.2	3.3		
ALCOHOLS, TOXIC, N.O.S.*		3.1	3.2	3.3	6.1	
ALDEHYDES, N.O.S.*		3.1	3.2	3.3		
ALDEHYDES, TOXIC, N.O.S.*		3.1	3.2	3.3	6.1	
ALKALOIDS, N.O.S.* or ALKALOID SALTS, N.O.S.*					6.1	
ALKYLAMINES, N.O.S.* or POLYALKYLAMINES, N.O.S.*	3		3.2	3.3	8	
AMYL ACETATES			3.2	3.3		9.2
AMYL ALCOHOLS			3.2	3.3		
AMYL FORMATES				3.3		
ANTIMONY COMPOUNDS, INORGANIC, N.O.S.*					6.1	
ARSENICAL PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2		6.1	9.2
ARSENICAL PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3				6.1	9.2
ARSENICAL PESTICIDES, LIQUID, TOXIC, N.O.S.*					6.1	9.2
ARSENICAL PESTICIDES, SOLID, TOXIC, N.O.S.*					6.1	9.2
ARSENIC COMPOUNDS, LIQUID, N.O.S.*					6.1	9.2
ARSENIC COMPOUNDS, SOLID, N.O.S.*					6.1	9.2
BARIUM COMPOUNDS, N.O.S.*					6.1	
BENZOIC DERIVATIVE PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2		6.1	9.2
BENZOIC DERIVATIVE PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3				6.1	9.2
BENZOIC DERIVATIVE PESTICIDES, LIQUID, TOXIC, N.O.S.*					6.1	9.2
BENZOIC DERIVATIVE PESTICIDES, SOLID, TOXIC, N.O.S.*					6.1	9.2
BIPYRIDILIUM DERIVATIVE PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2		6.1	9.2
BIPYRIDILIUM DERIVATIVE PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3				6.1	9.2
BIPYRIDILIUM DERIVATIVE PESTICIDES, LIQUID, TOXIC, N.O.S.*					6.1	9.2
BIPYRIDILIUM DERIVATIVE PESTICIDES, SOLID, TOXIC, N.O.S.*					6.1	9.2
BRAKE FLUID			3.2	3.3		
BROMOMETHYLPROPANES			3.2	3.3		
BUTANEDIONE or DIACETYL			3.2	3.3		
BUTANOLS			3.2	3.3		
BUTYL ACETATES			3.2	3.3		9.2
BUTYL ACRYLATE				3.3		
n-BUTYL BROMIDE			3.2	3.3		
CADMIUM COMPOUNDS, *n.o.s.**					6.1	9.2
CARBAMATE DERIVATIVE PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2		6.1	9.2
CARBAMATE DERIVATIVE PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3				6.1	9.2
CARBAMATE DERIVATIVE PESTICIDES, LIQUID, TOXIC, N.O.S.*					6.1	9.2
CARBAMATE DERIVATIVE PESTICIDES, SOLID, TOXIC, N.O.S.*					6.1	9.2
CHLOROPICRIN MIXTURES, N.O.S.*					6.1	
COAL TAR DISTILLATES, FLAMMABLE			3.2	3.3		
COATING SOLUTION			3.2	3.3		
COPPER BASED PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2		6.1	9.2
COPPER BASED PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3				6.1	9.2
COPPER BASED PESTICIDES, LIQUID, TOXIC, N.O.S.*					6.1	9.2
COPPER BASED PESTICIDES, SOLID, TOXIC, N.O.S.*					6.1	9.2

† Refer to TDG List II of Schedule II for aerosol classifications.

‡ Where more than one division for class 3 is shown, there is a classification for each of these divisions, in combination with the other classifications, if any.

* Shipping Names ending in "N.O.S.", or with "*n.o.s.*" appended, need to be completed, by adding the technical name of the substance causing the waste to be classified, in parentheses after the Shipping Name. Where "*n.o.s.*" is in lower case and italicized, it is not part of the Shipping Name.

Table 20 (continued): NOT FULLY SPECIFIED DANGEROUS GOODS
(EXCLUDING AEROSOLS)†

SHIPPING NAME	ASSOCIATED CLASSIFICATION(S)‡							
CORROSIVE LIQUIDS, FLAMMABLE, N.O.S.*	3						8	9.2
CORROSIVE LIQUIDS, N.O.S.*							8	9.2
CORROSIVE LIQUIDS, POISONOUS, N.O.S.*						6.1	8	9.2
CORROSIVE SOLIDS, FLAMMABLE, N.O.S.*					4.1		8	9.2
CORROSIVE SOLIDS, N.O.S.*							8	9.2
CORROSIVE SOLIDS, POISONOUS, N.O.S.*						6.1	8	9.2
COUMARIN DERIVATIVE PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2			6.1		9.2
COUMARIN DERIVATIVE PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3					6.1		9.2
COUMARIN DERIVATIVE PESTICIDES, LIQUID, TOXIC, N.O.S.*						6.1		9.2
COUMARIN DERIVATIVE PESTICIDES, SOLID, TOXIC, N.O.S.*						6.1		9.2
CYANIDE SOLUTIONS, *n.o.s.**						6.1		9.2
CYANIDES, INORGANIC, N.O.S.*						6.1		9.2
CYCLOHEXENE		3.1	3.2					
DIACETONE ALCOHOL			3.2	3.3				
1,1-DIMETHOXYETHANE		3.1	3.2					
DIMETHYLAMINE, SOLUTION		3.1	3.2					9.2
DIMETHYLDIOXANES			3.2	3.3				
DISINFECTANTS, CORROSIVE, LIQUID, N.O.S.*							8	
DISINFECTANTS, N.O.S.*						6.1		
DITHIOCARBAMATE PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2			6.1		9.2
DITHIOCARBAMATE PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3					6.1		9.2
DITHIOCARBAMATE PESTICIDES, LIQUID, TOXIC, N.O.S.*						6.1		9.2
DITHIOCARBAMATE PESTICIDES, SOLID, TOXIC, N.O.S.*						6.1		9.2
DRIERS, PAINT or VARNISH, LIQUID, N.O.S.*			3.2	3.3				
DYES, N.O.S.* or DYE INTERMEDIATES N.O.S.*							8	
ETHANOL, or ETHYL ALCOHOL, or ETHANOL SOLUTIONS, or ETHYL ALCOHOL SOLUTIONS				3.2	3.3			
ETHYLAMINE, AQUEOUS SOLUTIONS		3.1	3.2	3.3				
EXTRACTS, AROMATIC, LIQUID			3.2	3.3				
EXTRACTS, FLAVOURING, LIQUID			3.2	3.3				
FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.*		3.1	3.2	3.3			8	
FLAMMABLE LIQUIDS, N.O.S.*		3.1	3.2	3.3				
FLAMMABLE LIQUIDS, POISONOUS, N.O.S.*		3.1	3.2	3.3		6.1		
FLAMMABLE LIQUID PREPARATIONS, N.O.S.*			3.2	3.3				
FLUOROTOLUENES			3.2	3.3				
FUEL, AVIATION, TURBINE ENGINE		3.1	3.2	3.3				
FUEL OIL or FUEL OIL, No. 1, 2, 4, 5, or 6 or GAS OIL			3.2	3.3				
GUTTA PERCHA SOLUTION			3.2	3.3				
HALOGENATED IRRITATING LIQUIDS, N.O.S.*						6.1		
HEXAETHYL TETRAPHOSPHATE						6.1		
INK		3.2	3.3					
IODOPROPANES			3.2	3.3				
ISOCYANATES, N.O.S.* or ISOCYANATE SOLUTIONS, N.O.S.*		3.1	3.2			6.1		
KETONES, LIQUID, N.O.S.*		3.1	3.2	3.3				
MEDICINES, N.O.S.*		3.1	3.2	3.3		6.1	8	
MERCAPTANS, LIQUID, N.O.S.* or MERCAPTAN MIXTURES, LIQUID, N.O.S.*		3.1	3.2			6.1		

† Refer to TDG List II of Schedule II for aerosol classifications.

‡ Where more than one division for class 3 is shown, there is a classification for each of these divisions, in combination with the other classifications, if any.

* Shipping Names ending in "N.O.S.", or with "*n.o.s.*" appended, need to be completed, by adding the technical name of the substance causing the waste to be classified, in parentheses after the Shipping Name. Where "*n.o.s.*" is in lower case and italicized, it is not part of the Shipping Name.

Table 20 (continued): NOT FULLY SPECIFIED DANGEROUS GOODS
(EXCLUDING AEROSOLS)†

SHIPPING NAME	ASSOCIATED CLASSIFICATION(S)‡					
MERCURY BASED PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2		6.1	9.2
MERCURY BASED PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3				6.1	9.2
MERCURY BASED PESTICIDES, LIQUID, TOXIC, N.O.S.*					6.1	9.2
MERCURY BASED PESTICIDES, SOLID, TOXIC, N.O.S.*					6.1	9.2
MERCURY COMPOUNDS, LIQUID					6.1	9.2
MERCURY COMPOUNDS, SOLID					6.1	9.2
METAL ALKYL, SOLUTION, N.O.S.*		3.1	3.2	3.3		
METHYL-tert-BUTYLETHER		3.1	3.2			
METHYLMORPHOLINE			3.2	3.3		8
NAPHTHA			3.2	3.3		
NAPHTHA, PETROLEUM		3.1	3.2	3.3		
NAPHTHA, SOLVENT			3.2	3.3		
NICOTINE COMPOUNDS, N.O.S.* or NICOTINE PREPARATIONS, N.O.S.*					6.1	
OCTADIENE			3.2			
ORGANOCHLORINE PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2		6.1	9.2
ORGANOCHLORINE PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3				6.1	9.2
ORGANOCHLORINE PESTICIDES, LIQUID, TOXIC, N.O.S.*					6.1	9.2
ORGANOCHLORINE PESTICIDES, SOLID, TOXIC, N.O.S.*					6.1	9.2
ORGANOPHOSPHORUS PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2		6.1	9.2
ORGANOPHOSPHORUS PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3				6.1	9.2
ORGANOPHOSPHORUS PESTICIDES, LIQUID, TOXIC, N.O.S.*					6.1	9.2
ORGANOPHOSPHORUS PESTICIDES, SOLID, TOXIC, N.O.S.*					6.1	9.2
ORGANOTIN COMPOUNDS, N.O.S.*					6.1	9.2
ORGANOTIN PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2		6.1	9.2
ORGANOTIN PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3				6.1	9.2
ORGANOTIN PESTICIDES, LIQUID, TOXIC, N.O.S.*					6.1	9.2
ORGANOTIN PESTICIDES, SOLID, TOXIC, N.O.S.*					6.1	9.2
PAINT or PAINT RELATED MATERIAL			3.2	3.3		
PAINT or PAINT RELATED MATERIAL						8
PERFUMERY PRODUCTS			3.2	3.3		
PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2		6.1	9.2
PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3				6.1	9.2
PESTICIDES, LIQUID, TOXIC, N.O.S.*					6.1	9.2
PESTICIDES, SOLID, TOXIC, N.O.S.*					6.1	9.2
PETROLEUM CRUDE OIL		3.1	3.2	3.3		
PETROLEUM DISTILLATES, N.O.S.*		3.1	3.2	3.3		
PETROLEUM OIL		3.1	3.2	3.3		
PETROLEUM SPIRIT or PETROLEUM ETHER		3.1	3.2	3.3		
PHENOXY PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2		6.1	9.2
PHENOXY PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3				6.1	9.2
PHENOXY PESTICIDES, LIQUID, TOXIC, N.O.S.*					6.1	9.2
PHENOXY PESTICIDES, SOLID, TOXIC, N.O.S.*					6.1	9.2
PHENYLMERCURIC COMPOUNDS, N.O.S.*					6.1	
PHENYL UREA PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2		6.1	9.2
PHENYL UREA PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3				6.1	9.2

† Refer to TDG List II of Schedule II for aerosol classifications.

‡ Where more than one division for class 3 is shown, there is a classification for each of these divisions, in combination with the other classifications, if any.

* Shipping Names ending in "N.O.S.", or with "*n.o.s.*" appended, need to be completed, by adding the technical name of the substance causing the waste to be classified, in parentheses after the Shipping Name. Where "*n.o.s.*" is in lower case and italicized, it is not part of the Shipping Name.

Table 20 (concluded): NOT FULLY SPECIFIED DANGEROUS GOODS

(EXCLUDING AEROSOLS)†

SHIPPING NAME	ASSOCIATED CLASSIFICATION(S)‡							
PHENYL UREA PESTICIDES, LIQUID, TOXIC, N.O.S.*						6.1		9.2
PHENYL UREA PESTICIDES, SOLID, TOXIC, N.O.S.*						6.1		9.2
PHTHALIMIDE DERIVATIVE PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2			6.1		9.2
PHTHALIMIDE DERIVATIVE PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3					6.1		9.2
PHTHALIMIDE DERIVATIVE PESTICIDES, LIQUID, TOXIC, N.O.S.*						6.1		9.2
PHTHALIMIDE DERIVATIVE PESTICIDES, SOLID, TOXIC, N.O.S.*						6.1		9.2
POISONOUS LIQUIDS, CORROSIVE, N.O.S.*						6.1	8	
POISONOUS LIQUIDS, FLAMMABLE, N.O.S.*	3					6.1		
POISONOUS LIQUIDS, N.O.S.*						6.1		9.2
POISONOUS SOLIDS, CORROSIVE, N.O.S.*						6.1	8	9.2
POISONOUS SOLIDS, FLAMMABLE, N.O.S.*					4.1	6.1		9.2
POISONOUS SOLIDS, N.O.S.*						6.1		9.2
PROPIONALDEHYDE		3.1	3.2					
1,2-PROPYLENEDIAMINE			3.2	3.3			8	
RESIN SOLUTION			3.2	3.3				
RESIN SOLUTION, POISONOUS						6.1		
RODENTICIDES, N.O.S.*						6.1		
ROSIN OIL			3.2	3.3				
RUBBER SOLUTION			3.2	3.3				
SHALE OIL			3.2	3.3				
SODIUM ARSENITE, AQUEOUS SOLUTIONS						6.1		9.2
SODIUM METHYLATE SOLUTIONS			3.2	3.3				9.2
SUBSTITUTED NITROPHENOL PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2			6.1		9.2
SUBSTITUTED NITROPHENOL PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3					6.1		9.2
SUBSTITUTED NITROPHENOL PESTICIDES, LIQUID, TOXIC, N.O.S.*						6.1		9.2
SUBSTITUTED NITROPHENOL PESTICIDES, SOLID, TOXIC, N.O.S.*						6.1		9.2
TARS, LIQUID			3.2	3.3				
TETRAETHYL DITHIOPYROPHOSPHATE, DRY or MIXTURE						6.1		
TETRAETHYL DITHIOPYROPHOSPHATE, LIQUID or MIXTURE						6.1		
TINCTURES, MEDICINAL			3.2	3.3				
TRIAZINE PESTICIDES, LIQUID, FLAMMABLE, TOXIC, N.O.S.*			3.2			6.1		9.2
TRIAZINE PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.*	3					6.1		9.2
TRIAZINE PESTICIDES, LIQUID, TOXIC, N.O.S.*						6.1		9.2
TRIAZINE PESTICIDES, SOLID, TOXIC, N.O.S.*						6.1		9.2
TRIISOBUTYLENE				3.3				
TRIISOPROPYL BORATE				3.3				
TRIMETHYLAMINE, AQUEOUS SOLUTIONS			3.2					9.2
TRIPROPYLENE			3.2	3.3				
TURPENTINE SUBSTITUTE			3.2	3.3				
WOOD PRESERVATIVES, LIQUID			3.2	3.3				
XYLENES			3.2	3.3				9.2

† Refer to TDG List II of Schedule II for aerosol classifications.

‡ Where more than one division for class 3 is shown, there is a classification for each of these divisions, in combination with the other classifications, if any.

* Shipping Names ending in "N.O.S.", or with "*n.o.s.*" appended, need to be completed, by adding the technical name of the substance causing the waste to be classified, in parentheses after the Shipping Name. Where "*n.o.s.*" is in lower case and italicized, it is not part of the Shipping Name.

Table 21: TDG LEACHATE CRITERIA

Code Number	Contaminant	Waste Extract Concentration (mg/L)
L3	Aldrin + Dieldrin	0.07
L4	Arsenic	5.00
L5	Barium	100.00
L6	Boron	500.00
L7	Cadmium	0.50
L8	Carbaryl/1-Naphthyl-N-methyl carbamate/Sevin	7.00
L9	Chlordane	0.70
L10	Chromium	5.00
L11	Cyanide	20.00
L2	2,4-D	10.00
L12	DDT	3.00
L13	Diazinon/Phosphordithioic acid, 0,0-diethyl 0-(2-isopropyl 6-methyl-4-pyrimidinyl) ester	0.02
L14	Endrin	0.02
L15	Fluoride	150.00
L16	Heptachlor + Heptachlor epoxide	0.30
L17	Lead	5.00
L18	Lindane	0.40
L19	Mercury	0.10
L20	Methoxychlor/1,1,1-Trichloro-2,2-bis (p-methoxyphenyl) ethane	10.00
L21	Methyl Parathion	0.70
L22	Nitrate + Nitrite	1 000.00
L23	Nitrilotriacetic acid	5.00
L24	Nitrite	100.00
L26	Parathion	3.50
L27	Selenium	1.00
L28	Silver	5.00
L29	Toxaphene	0.50
L1	2,4,5-TP/Silvex/2-(2,4,5, Trichlorophenoxy) propionic acid	1.00
L30	Trihalomethanes	35.00
L31	Uranium	2.00

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200 year floodplain - means land where the chance of a flood occurring in any given year is at least one in two hundred.

9.2 classification - used in the Transportation of Dangerous Goods (TDG) Regulations to denote a "hazardous substance". There are no criteria for classification of substances in class 9 division 2. Those substances having this classification are indicated by a "9.2" in Column III of List II of Schedule II in the TDG Regulations.

acid - a proton donor. Generally a hydrogen-containing compound which reacts with water to produce hydrogen ions, and solutions having a pH less than 7. A liquid compound with a pH less than 2 is regulated as a corrosive substance under the Transportation of Dangerous Goods Regulations.

alkali - see base.

approval - refers to an approval given under section 9 of the Waste Management Act. This is an authorization similar to a waste management permit but is limited to a 15 month term, including any renewals.

aqueous - pertaining to, similar to, containing, or dissolved in water.

aquifer - includes any soil or rock formation that has sufficient porosity and water yielding ability to permit the extraction or injection of water at reasonably useful rates.

BCG No. - see consignor identification number.

base - a proton acceptor. Generally a substance containing the OH^- group which reacts with water to form hydroxide ions, and solutions having a pH greater than 7. A liquid with a pH of greater than 12.5 is regulated as a corrosive substance under the Transportation of Dangerous Goods Regulations.

bioaccumulative - that property of a substance that causes it to accumulate in the tissues of an organism.

biochemical oxygen demand (BOD) - the amount of oxygen required by biological organisms to break down organic matter under aerobic conditions.

biomagnification - the process that occurs when substances become concentrated as they pass to higher levels of the food chain.

buffer zone - land used to separate a facility from other land.

bulk load - a shipment in which 2 or more individual special waste consignments are carried together within a larger container.

carcinogenic - cancer causing.

carrier - a person who transports a special waste.

chemical treatment - the process by which hazardous waste is rendered less hazardous by changing the chemical composition of such waste.

chlorobiphenyls - see PCB.

classification criteria - the limit values for the various tests described in Part III of the Transportation of Dangerous Goods Regulations, which determine whether a substance is dangerous goods, and if so, in which hazard class (and packing group if applicable) it belongs.

class - a grouping of dangerous goods, based on the application of Transportation of Dangerous Goods Regulations classification criteria.

APPENDIX E: GLOSSARY

closure - actions taken by the owner or operator of a hazardous waste facility to prepare the site for long-term care after it has stopped accepting waste.

combustion zone temperature - the temperature maintained inside the burning area of an incinerator.

confined aquifer - an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined groundwater.

consignee - a person to whom special wastes are transported. A receiver of a special waste.

consignor - a person who offers special wastes for transport. A shipper of a special waste.

consignor identification number - unique number issued to waste consignors by the Environmental Protection Program and without which, waste quantities greater a specified amount, may not be consigned. As known as a BCG No.

contingency plan - a document setting forth an organized, planned and coordinated course of action to be followed in order to prevent pollution incidents, and to limit potential pollution in case of fire, explosion or discharge of hazardous waste constituents which could threaten human health and the environment.

criteria - in British Columbia, province-wide non site-specific target values for characteristics of concern (compare guidelines, objectives and standards).

dangerous goods - substances or articles as defined in section 2 of the Transportation of Dangerous Goods (TDG) Act and regulated (not including the exemption applicable to industrial worksites found in section 2.4(1)(b)) by the TDG Regulations.

delisting - process of demonstrating that a substance defined as special waste, presents insufficient hazard to warrant regulating as special waste.

demonstration trial - test or series of tests carried out during the approval process for a treatment process or facility. Amongst other things, a demonstration trial must show that the effectiveness of a process or facility under any "worst case" conditions which may be encountered, as well as identify appropriate operating conditions.

dioxin TEQ - dioxin toxicity equivalent. A single number used to compare the toxicity of substances containing various dioxins and furans.

director - a director in the Environmental Protection Division, designated by the Minister of Environment, Lands and Parks as a director or deputy director of waste management.

disposal - the introduction of waste into the environment through any discharge, deposit, emission or release to any land, water or air by means of facilities designed, constructed and operated so as to minimize the effect on the environment.

environment - the air, land, water and other external conditions or influences in which man, animals and plants live or develop.

facility - any works that are designed to or do handle, store, treat, destroy or dispose of special waste, and includes in-situ management facilities, recycle facilities, short-term storage facilities, treatment facilities, incinerators, thermal treatment facilities, mobile facilities, secure landfills, piles, surface impoundments, land treatment facilities and long-term storage facilities, but does not include historical special waste contaminated sites.

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final cover - the cover material that is applied upon closure of a landfill and the surface of which is permanently exposed.

free liquid - any quantity of a liquid which is separated from a solid when subjected to the Free Liquid Test Procedure described in Part 3 of Schedule 4 of the Special Waste Regulation.

friable asbestos - asbestos material that can be crumbled, pulverized, or reduced to powder in the hand, readily releasing fibres with minimal mechanical disturbance. Typically, friable asbestos may have the following characteristics: fluffy or spongy appearance (always applied by spraying); irregular, soft surface (usually applied by spraying); or textured, dense, fairly firm surface (usually applied by trowelling).

generator - the person who by nature of ownership, management or control, is responsible for causing or allowing to be caused, the creation of hazardous waste.

guidelines - non site-specific guide values for assessing characteristics of concern (compare criteria, objectives and standards).

halogenated - covalently bonded with one or more of the following elements: bromine, chlorine, fluorine, iodine.

heavy metal - any of the following elements: antimony, arsenic, beryllium, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, or zinc.

historical special waste contaminated site - land or groundwater which was contaminated with special waste on or before April 1, 1988, and no longer used for any activity which adds special waste contamination to the land at that location.

impervious - having a permeability not greater than 1×10^{-7} cm/s when subjected to a head of 0.305 m of water

indoor - enclosed and protected from precipitation and wind as in a building, but not including a shipping container used for passive storage.

in-situ management facility - a facility for preventing or controlling the movement or release of special waste contaminants, or for treating or destroying such contaminants at an historical special waste contaminated site, but done in such a way that the site or contaminants are not substantially physically altered.

labpack - a drum with a maximum capacity of 454 L filled with small containers of chemically compatible special wastes which are surrounded by a sufficient quantity of inert absorbent material to completely absorb all the liquid contents of the inside containers.

LC50 - the lethal concentration of a substance in air or water necessary to kill 50% of test organisms within a specified time under standardized conditions.

LD50 - the lethal dosage of a substance necessary to kill 50% of a sample population of test animals as determined from exposure to the substance, by any route other than inhalation, within a specified time under standardized conditions.

leachable toxic waste - a liquid, or a solid which when exposed to acidified water produces a liquid, which has levels of contaminants greater than specified in the Special Waste Regulation or the Transportation of Dangerous Goods Regulations (there are some differences between levels specified in these regulations).

leachate - liquid containing contaminants, generated by percolation of water through materials.

manage - to handle, transport, store, treat, destroy or dispose of special waste.

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manager - a Regional Environmental Protection Manager as designated by the Minister of Environment, Lands and Parks.

manifest - a form specified by the Special Waste Regulation to document and track the movement of special waste shipments.

mutagenic - causing alterations in the genes of a cell

objectives - site-specific target values for characteristics of concern (compare criteria, guidelines and standards).

oil - see waste oil.

operator - the person responsible for the overall operation of a facility.

passive storage - storage where the only operations performed are placement, retrieval, and inspection.

PCB - polychlorinated biphenyls. Substances having the molecular formula $C_{12}H_{10-n}Cl_n$, where n can be any number from 3 to 10 inclusive. Also known as chlorinated biphenyls.

PCB equipment - any manufactured item which contains or is contaminated with a PCB liquid or PCB solid. While items of PCB equipment are often electrical components such as transformers, or capacitors, the definition includes other items such as contaminated drums and containers. An item of equipment need only be contaminated with liquid or solid containing more than 50 parts per million by weight of PCB, for the whole item to be considered PCB equipment.

PCB liquid - any liquid containing more than 50 ppm by weight of PCB.

PCB solid - any material or substance other than a liquid containing more than 50 ppm by weight of PCB. Absorbents or soils contaminated PCB are typical examples.

PCB wastes - PCB liquids, PCB solids and PCB equipment are grouped together, and all except PCB equipment which is actually in service, are defined as PCB wastes. Any PCB equipment becomes PCB waste as soon as it is removed from service, regardless of any intent to treat, recycle, or reuse the equipment.

person - an individual, partnership or incorporated group having both legal rights and responsibilities.

permeability - the property of soil or rock that allows passage of water through it.

pH - the expression of the acidity or basicity of a solution, as the negative logarithm of the hydrogen ion concentration in the solution. Aqueous solutions with pH 7 at 25°C are neutral (neither acidic nor basic).

pile - see waste pile.

PIN, or product identification number - an identifying number assigned to dangerous goods by the Transportation of Dangerous Goods Regulations.

polycyclic aromatic hydrocarbon TEQ or PAH TEQ - polycyclic aromatic hydrocarbon toxicity equivalent. A single number used to compare the toxicity of substances containing various polycyclic aromatic hydrocarbons. Also known as polynuclear aromatic hydrocarbons.

notification - the process of advising government agencies in advance of a shipment of special waste. The shipment may be leaving, going to or passing through the notified jurisdiction.

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principal organic hazardous constituents or POHC - one or more organic components of a special waste that are designated by a manager or the director.

product of incomplete combustion or PIC - a carbon containing compound, other than carbon dioxide, present in the exhaust stream of a thermal treatment facility.

protocol - a defined procedure for carrying out a test, which has to be strictly adhered to, in order to produce valid test results.

pyrolysis - experimental hazardous waste thermal treatment process by which organic wastes are decomposed in an oxygen deficient atmosphere at high temperatures.

recharge area - any land within which water enters an aquifer.

retention time - the time hazardous waste is subjected to the combustion zone temperature in an incinerator.

seasonally high water table - the highest level of rise of the free surface of water below the ground surface at any time during the year.

SIC number - a number assigned to a corresponding type of industry, manufacture or product under the Standard Industrial Classification prepared by Statistics Canada.

solidification - the process of stabilizing waste within a solid with high structural integrity.

special waste - any waste that is determined to be a special waste under section 1 of the Special Waste Regulation.

standards - legally enforceable limit values for characteristics of concern (compare criteria, guidelines and objectives).

statistically significant - when the difference between a background and an observed value within an area of concern is so large that it is deemed improbable that it could be attributed to chance.

surrogate - a substitute, less hazardous material, used instead of a special waste for initial testing of treatment processes or facilities.

swale - a low, wet piece of land.

TDG Act or Regulations - Transportation of Dangerous Goods Act or Regulations (Canada).

temporary storage - storage for a period less than 14 days.

teratogenic - causing birth defects or alterations in the formation of cells, tissues or organs of a fetus.

thermal treatment - means the treatment of special waste in a device which uses elevated temperatures.

treatment - the handling or processing of special waste in such a manner as to change the physical, chemical or biological character or composition of the special waste in order to eliminate or reduce the volume, or one or more hazardous properties of the special waste. Dilution is not considered treatment under the Special Waste Regulation.

unconfined aquifer - an aquifer that extends downward from the surface with no low permeability material above it.

underground injection - the emplacement of fluids underground through a bored, drilled, driven or dug well.

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waste - includes air contaminants, litter, effluent, refuse, special wastes and any other substances designated by the Lieutenant Governor-in-Council whether or not it has any commercial value or is capable of being used for a useful purpose.

waste oil - automotive lubricating oil, cutting oil, fuel oil, gear oil, hydraulic oil, any other refined petroleum based oil, synthetic oil, or materials containing 3% or more of such oils, where the oils through use, storage or handling have become unsuitable for their original purpose due to the presence of impurities or loss or original properties.

waste pile - any non-containerized accumulation of solid, nonflowing special waste that is being stored or treated.

wetland - any land such as a tidal flat, marsh, swamp, bog or fen which is frequently inundated and for that reason has developed an organic soil and occurs in an area which is lower lying than its surroundings.

REQUEST FOR REVISIONS CARD

British Columbia's special waste laws and regulations are subject to periodic review. Revisions will be published from time to time. If you wish to receive revisions, complete and return this form to:

Special Waste Legislation Revision
Environmental Protection Division
BC Environment
3rd Floor
777 Broughton Street
Victoria, British Columbia
V8V 1X5

I request revisions to the following (please check):

☐ Special Waste Legislation Guide

☐ Special Waste Regulation

☐ Waste Management Act

Generator I.D. No. BCG _____
(if applicable)

Name _____

Title or Department _____

Organization/Street Address _____

City _____ Province _____

Postal Code _____

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